Notebook Series -- Notebooks by Experimenters Other Than Edison
Navy and Wartime Research Experiments -- J. A. Hanley Books
Notebook N-19-02-15.2

This notebook was used by John A. Hanley during February-September 1919 for experimental notes on submarine detection. Most of the entries pertain to tests conducted at sea on detection equipment. The book ends with the note "Burns to do this. I am to continue on Storage Battery job." The notes indicate that Hanley was reporting to Edison through William H. Meadowcroft. The front cover is labeled "Experiments. Edison Submarine Detector. No - 2. From, Feb. 14-19, To." Numerous loose pages relating to these experiments have been inserted into the book. The pages are unnumbered. Approximately 125 pages have been used.

J. Hanley.
Edison Lab.
West Orange
N. J.

75428
Acme Co.,
MFG. STATIONERS,
96 JOHN ST.
AND
19 PLATT ST.
NEW YORK.

Cont. from book No. 1.

Feb. 15.

Am making a report of work and experiments to date, to send to Mr. Edison.

Feb. 17.

Gave Mr. Meadowcroft report to send Mr. Edison.

Feb. 20

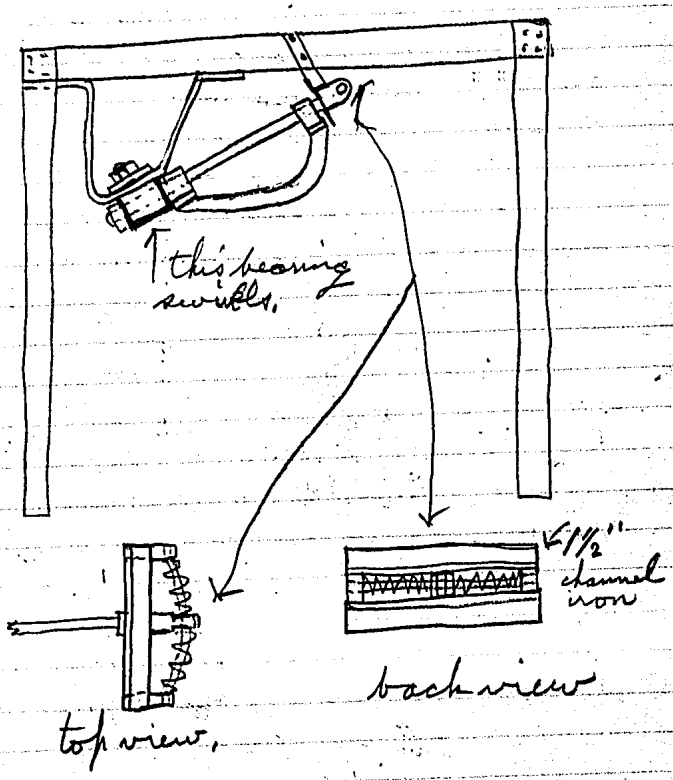
I went aboard the Hanoli at Bensonhurst.

Capt. Harris said the navy people did not want to make the desired changes in regard to fitting up a shop.

So we decided to let it go as the work in the future will be of a large nature, and could not be done very well on a boat.

Am going to have small lathe come back to the lab and set it up in No 1 Bldg.

Am also having tools etc



returned to lab.

Feb. 24.

Finished work on suspension and set up in lab as shown on opposite page.

I did this so that I could find any defects (if present) before putting it on launch.

Feb. 25.

We shipped apparatus to the Hanoli, now at E 23rd St. N.Y. and had the material aboard returned to lab.

Feb 26.

Burns and Myself fitted the outrigger to launch.

Con next page.

Feb. 27

We take a trip down the east river with intentions of going out in the lower bay.

We get as far as the Brooklyn bridge and nearly get swamped. The river is very treacherous here as the tides meet.

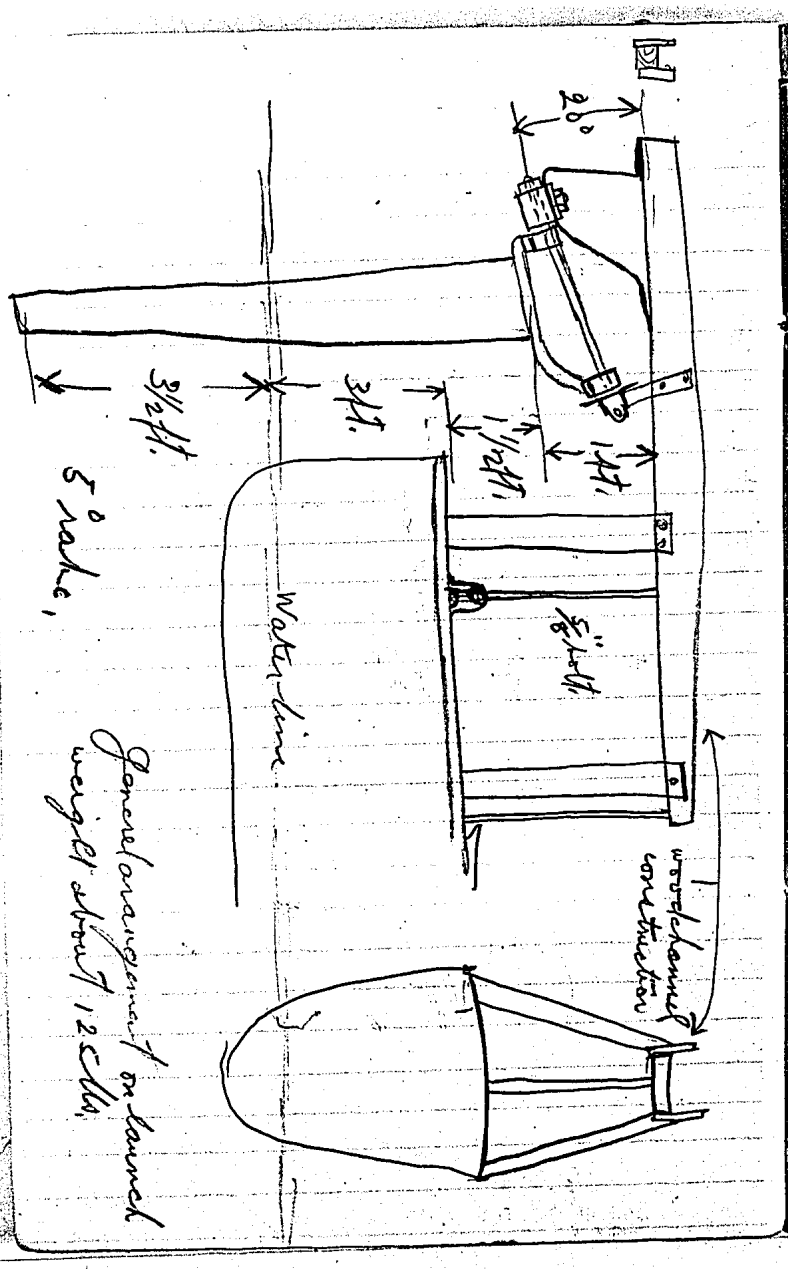
We return and go up the north part of river.

The column behaves fine regardless of how the launch is being tossed about.

The speed of launch is 10 knots

We make sharp turns from left to right alternately and we get rolled and tossed about by getting in the swells of ferry boats

The abrorber can be observed taking care of the rolling and the wave slap.



There does not seem to be any strains or twists as was noticed in the other tests (45° suspension)

This is a very severe test.

I think if we had this affair at 45° something would be broken by this time.

We come in after about 6 hours of running.

The springs in the absorber were not hardened, and due to the continued use, they became shortened.

I am going to have some more springs made and hardened and continue tests.

March 3.

We went aboard and put a new set of hardened springs in place.

We then proceeded for a run test.

Springs seem to be a little short, so We return and put longer ones in.

We now go out again.

Works very good now.

We run down the river and get in the wake of ferry boats and large river steamers, We also get in all kinds of cross currents and launch got tossed about like a cork.

At times the whole affair goes under water and then

completly out.

There is no effect on column at all,

It remains vertical.

It seems as though its almost impossible that any thing can stay on the bow of a boat under such conditions.

I think it would outlast about 6 launches.

We return after running about 7 hours, and have traveled and come one from launch.

I am going to set this affair up in lab. so that Mr. Edison can examine it when He returns from Fla.

March 4.

I got sufficient dimensions of bough of the Hanoli to lay out an outrigger to suspend column, had Burns along.

She has no bowsprit like Sachem had.

Am compiling a report to send to Mr. Edison.

March 5.

I am laying out structure for bough of Hanoli.

Burns is fitting up lathe in No 1 bldg.

March 11.

Burns works for Hayes.

March 12.

Had Burns go over to Hanoli in Ford truck to bring back 8 ft. model.

March 14.

Burns is listing the returned material, tools etc.

We return a list of same to stock room.

March 15.

I sent drawings of affair for the Tanoli to Mr Edison for his approval. (to Ft Meyer Fla.) meantime I am laying out all the parts in detail.

March 24.

Received C.K. drawings from Ft. Meyer.

March 26.

I got a letter from Mr. Meadowcroft to Admiral Bird, and went over to the Navy yard with some also drawings.

Had Jimmy Burns start to make the template to form colum by.

March 27.

Capt. Harris and Myself went to Navy yard, I gave letter to Admiral Bird. He C.K. crowd and We handed it over to the engineering Officer to be started at once.

March 29.

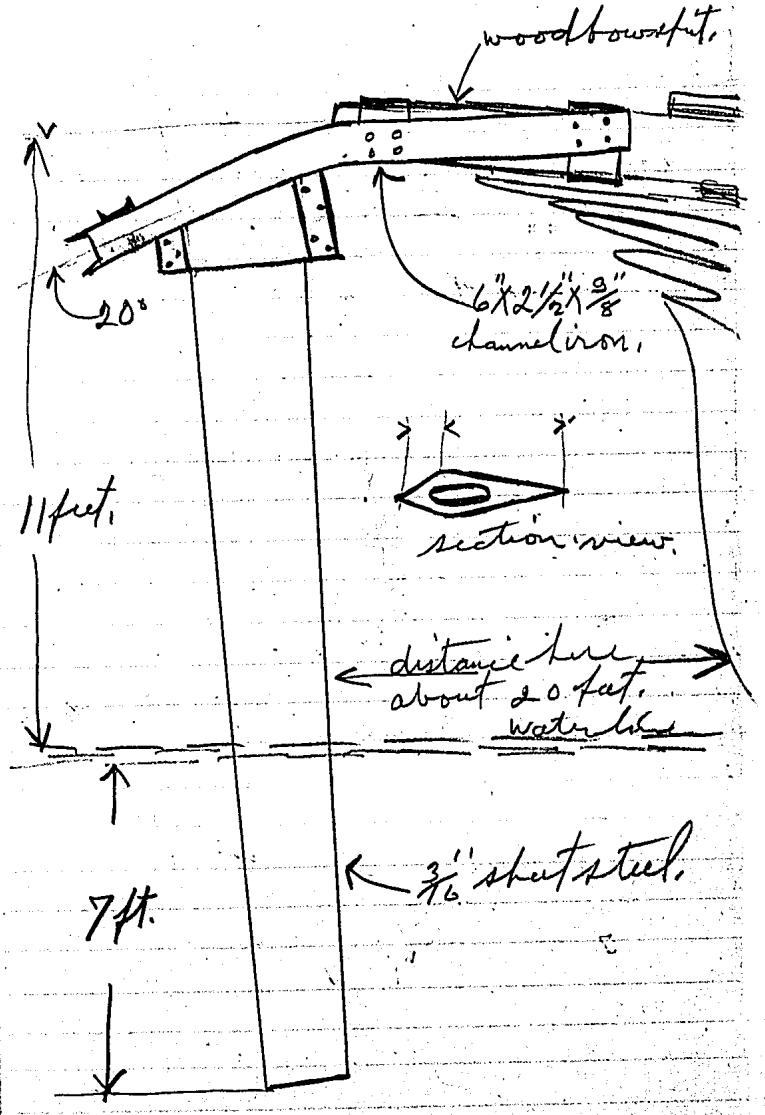
I take templates over to Navy yard.

March 31.

I am laying out an instrument to record the behaviour of the boat as to rolling and pitching.

This instrument is to be used in experiments of the future.

This will enable me to ~~take~~ take and keep a record of the action of the boat to compare with the action of the colum.



I go over to the yard about every second day to see about the works progress also to explain the different drawings. The rest of the time I spent in on the recorder.

April 14.

The parts are mostly ready to fit on Tarboli.

May People have orders to go ahead and fit the office on.

Jean M. Edison.

April 18.

Capt. Harris came out to lab.

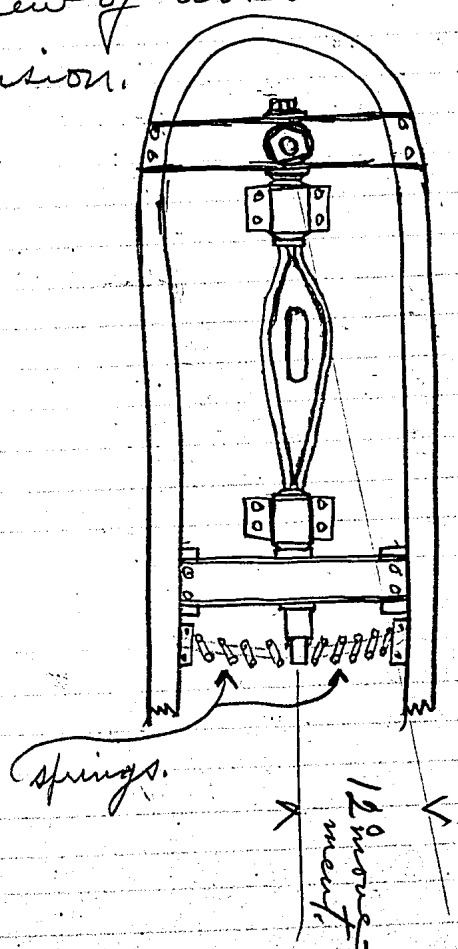
April 21.

Capt. Harris and Myself went aboard the ex German submarine U 111.

They would not allow anyone below deck.

The Chief Electrician said that the listening apparatus

top view of absorber and suspension.



was taken of and smashed up by the English.

I guess the Germans did not consider the listening proposition essential in connection with the efficiency of their subs.

Apr. 25.

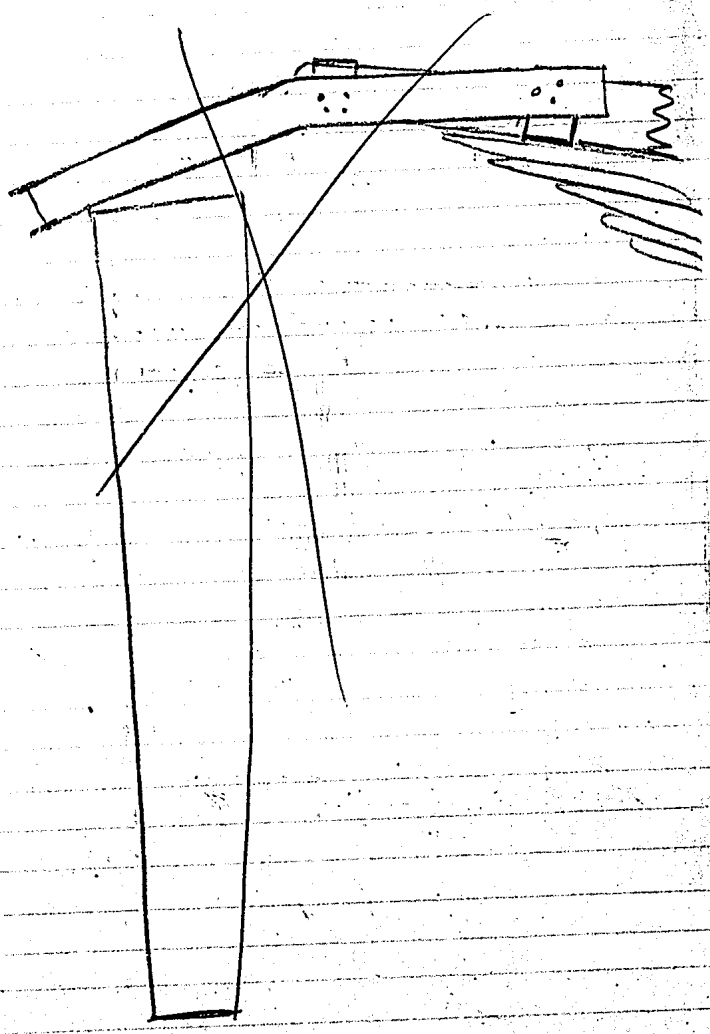
Am having six springs made and hardened from different sizes of material to be used in connection with absorber.

Apr. 26.

Old bowsprit was taken off Hanoli to make way for new one.

Apr. 30.

The battleship Tennessee is being launched at Navy Yard to day.



May 5.

The apparatus is finished and is lying at dock, near the Haulo.

It is ready to put on.

May 12.

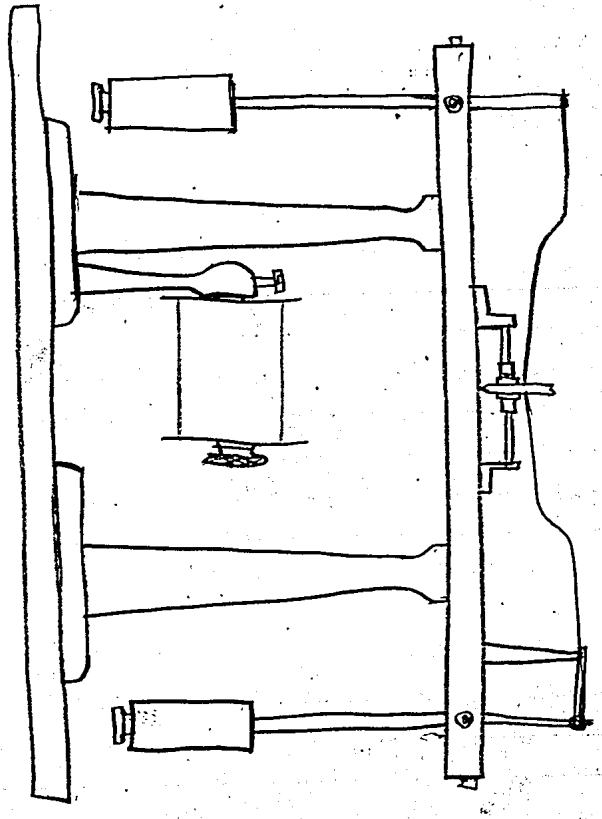
Furnished Engineering Office of the hull division with drawings and order as requested.

The above was required before work could be started, as first order covered only the construction.

May 13.

I want to add, brought two sets of springs for absorber.

Hand men are putting out riggers and column in place on the ship and expect to have it finished by to morrow noon



May 1. 14.

I went in lab and got things in readiness to go aboard the Hawoli

I seen Mr. Edison and told him we were going to New London to run to see the Telesia, at the same time test the riding of column.

Also asked to take Burns along.

We left Lab at 11.15 A.M. in Ford car with recording instrument, tools etc.

Arrived at Yard at 1.30 P.M.

Left dock and got under way at 2 P.M.

After maneuvering around the yard for about one half hour we proceeded to Benson hurst and anchored there for the night, it being too late to go to sea. (4 P.M.)

We are going to take the out side course so as to get as near to the actual

We hit a log of wood while coming down the bay. This could not be avoided. It did not do any damage

conditions as possible.

The column behaved very good while under way at full speed.

It had quite a severe test while we were manuvering around in navy yard, and the East river as we had to back up at full speed at times.

Of course column would tend to raise to the surface when backing as we never gave this phase of the position any consideration.

The above numbering made in the river and lower bay it was fairly calm ~~there~~.

I set up recorder in the chart house of the Havoli so as to have it ready for offeration to morrow.

Myself and Burns inspected the suspension while at anchor and found everything O.K.

May 15.

We pulled anchor and left Bensonhurst at 7 A.M. and proceeded to sea for New London (outside course)

The sea was quite rough (choppy) and boat pitched and rolled considerable, as shown by recording instrument.

There was a very stiff West wind blowing.

Speed was from 12 to 14 knots.

The apparatus worked fine.

~~The~~

At 5.10 P.M. one of the bronze bearings blew away.

We were pitching severely at the time.

~~The~~ upon examination of the bearing found that it was a very poor casting, it being mostly dirt.

The apparatus rode continuously for 10 hours under (21)

severe conditions all the time
This is shown by recorder.
This accident happened off
Montauk Pt.

We removed the column
from outrigger and placed
on deck, then proceeded to
Fort Pond bay to anchor over
night it being to late to go
to New London.

We dropped anchor in
Fort Pond Bay at 8. P.M.

The above test was by far
the most severest We put any
affair to so far.

May 16.

We started from Fort Boyd bay at 6 a.m. and arrived at New London at 8 a.m.

The weather was fine and the water very calm.

I took a record of the boat behavior to compare it to yesterday's record.

New London

The Captain Burns and Myself went to the experiment station here to see if we cant get a new casting so as to continue test on way back. We took in other casting to use as pattern.

The People here said we could have it by Monday.

We then went up the Thames to look for the Felicia. After locating and inspecting her, we found that she had been in a collision and that 14 feet of her bough was

taken away and consequently she is out of commission.

We learned that it would take at least two months to put her in commission and she has very poor accomodations also.

She would not be suitable for our work at all.

I went to town in P.M. and sent telegram to Mr. Edison

I bought some oil etc for recorder.

Also made some new pens so that it could get roll and pitch simultaneously.

We are lying at anchor in the Thames river.

The recorder is a very valuable affair.

I certainly works fine.

May 17.

The finished bearing was sent to the Hawoli from the experiment station.

It is to late to put column on.

We will coal up and water up Monday morning and then go out in the Thames and anchor and put column in place.

May 18.

Sunday.

We observed the sabath

May 19.

We went to dock for coal and water, left New London at 2.30 PM. arriving at Fort Pond Bay at 4.30 " and anchor.

After correcting the alignment of the bearings as best we could, we put the column in place, using the anchor tackle to do so.

We got every thing in readiness with the exception of putting springs in absorber. Darkness having set in and making further work impossible

I took a record of the ships behavior while coming across Block island sound. It was a beautifull day and very calm on the water.

There were ground swells present as shown on records

I listened in on the Harold's listening gear while coming across the sound. (M.V. tube)

All that could be heard was a continuous roar, which I think was due to water noises

This roar was constant regardless of the position of the compensator.

There was no centering or binoral effect.

The engine of the Hanoli could not be heard plain.
Could not count the R.P.M.
I had a graduated listener on board, listen in.
He could not hear anything except the roar.
He said that this type of apparatus was never any good.
That is it could not be used while ship was underway.

May 20,
Everyone arose at 5.30 A.M. to get ready to get underway.
We put springs in the atrophier and got the apparatus working in good shape.
It moves very freely now from side to side.
We started from Fort Pond bay at 6.30 A.M.
The weather was very clear and water was very calm.
Swells were present.
There was a slight east wind blowing.

The absorber could not work to its full capacity Thursday due to the binding of the bearings.

This also helped in a great measure to break the bearing.

After getting around Montauk point, We take a steady course, West by South.

The absorber works very good now, The action is much more pronounced now since We aligned the bearings.

The binding is not present that was experienced Thursday.

The absorber is constantly taking care of the boats vibrations.

We sail at a steady speed of 13 to 14 knots.

We have a lookout stationed at the bough of boat so as to notify if anything goes wrong, or if We approach logs etc.

About 3 PM when We were approaching New York We increased the speed of the Hanoli to 16 to 17 knots.

The column rides just the same. There is no difference [41]

in the riding condition at this high speed.

Of course the wetted the water line is greater.

When running at high speed of 12 knots there was present a distinct note which was very loud.

This is due to the column acting as a reed.

Everything seemed to be in right proportion to produce this note.

The note was D.

The covering of rubber will of course change this condition.

I bored a hole in the wooden plug in top of column and put a set of earthes in to listen to the noise of the wake.

There was a steady roar due to the wake left behind column, I guess a lot of this

noise is due to the surface friction also.

When column would hit a chip or any small ~~surface~~ object in the water, it was very loud in the car tubes.

It seems as though this noise was no greater than the noise experienced in the M.V. Lake affair on Hanoli.

I took records at various times during the day.

Coming in New York harbor, We hit a log of wood about as large a railroad tie. This could not be avoided.

The column broke it in two pieces.

This shows the apparatus can stand quite a severe blow.

The speed was about 13 knots

We arrive at 79th St and

north river, and tie up to dock there.

In the test of the above few days, the column was on boat while under way for 23 hours.

The maximum speed attained was 17 knots.

The records show the ship's behaviour, heading, location etc.

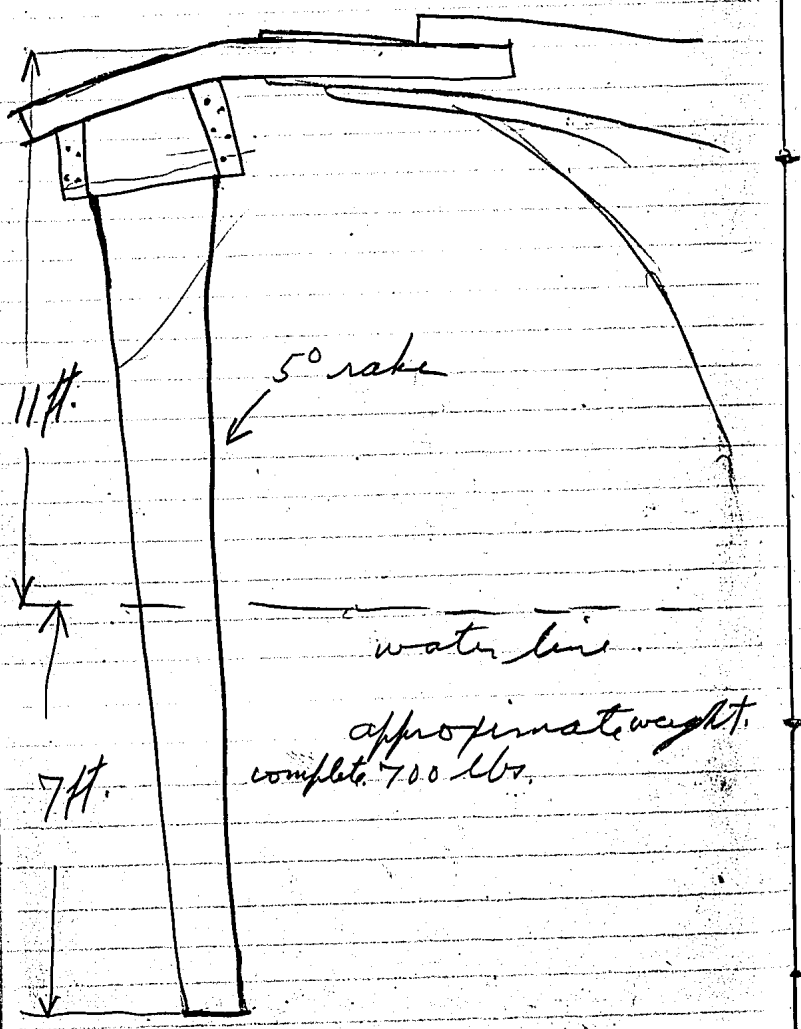
This test is by far the most severe we have put any affair on board of a boat to.

While running at 17 knots speed one of the springs in the column became strained and shortened up.

This however only effected column to the extent of a few degrees out from the vertical.

This would in no way impair the operation.

I will have new springs made to overcome this.



Myself and Burns leave for home at 7 P.M.

The sketch, shows the arrangement and dimensions of the apparatus.

May 21.

Went in lab. and reported results to Mr. E. also gave him report on Felicia.

Am having a new set of springs made for absorber. 3/16" steel. 5/8" pitch. 5" long.

Ascertained from Mr. Knox of the Manhattan rubber Co. of Passaic. if it was possible to make wire inserted rubber 48" wide. answered in the affirmative.

I ordered 15 sheets of sponge rubber 20" sq. from the Miller rubber Co. of Akron Ohio.

Am having made bras

wire netting No 12 mesh No 20 and No 22 wire. by the Esty wire works.

The wire We used before was No 21 each way but the Esty people said it would be impossible to get No 21 wire at the present time, and that they had plenty of Nos. 20 and 22 in stock.

The combination of 20 and 22 is practicaly the same in every way as the No. 21.

May 22.

Burns called at lab for springs and I met him in Newark and We proceeded to New York, arriving aboard the Hanoli at 79th St. at 11 A.M.

May 23.

We put the springs in the absorber in the morning.

It was very foggy and We could not go out until noontime

(51)

The fog lifted around that time.

We left dock at 12 o'clock for a test outside Sandy Hook.

The sea was very choppy and a stiff wind of about 25 miles was blowing.

The Hanoli pitched and rolled a lot as shown by the records.

We took a record of the boats behavior for the whole trip.

We took all sorts of courses in order to get the maximum roll and pitch.

We put the affair through a very rigid test for about seven hours.

The absorber works much better with the new springs.

The whole affair would submerge at times and occasionally raise completely out of the water.

It seems to me that we could not put it to a more severe test.

I listened in on the MV tube on the Hawoli when we were lying to.

There were a lot of water noises due to the boat rolling and pitching.

I heard a tramp steamer about two miles.

We then sailed abeast of a tramp steamer.

Speed of each ship about 10 knots.

200 yards away.

Could not hear anything except the roar due to water noises from Hawoli going through the water.

I gave the job up as the Lifeair is absolutely useless when ship is underway.

We now sail into dock at 79th St. arriving there at.

7 P.M.

Todays test was seven hours continuous running at a speed of 13 to 14 knots per hour.

The total time column was on bow of Hanoli while under way was approximately 30 hours, which is equivalent to about 400 miles.

The maximum speed attained was 17 knots.

I am now convinced that the principle of surfaces is O.K., and that the affair will stand up in any kind of a sea that the Hanoli can stand.

Will have column removed from bow as soon as I get some photographs taken to show the comparative size of

the colum to the Hanoli.

I wrote up a typewritten report of complete test for Mr. Edison.

Purchased a scrap book for keeping behavior records in.

May 26

Went aboard the Hanoli (by automobile).
Had Burns and Lundeborg.

Had Lunde take photographs of colum.

We then removed colum and placed on the dock.
Had a truck ordered from Lab. to take same in.

We return at 3 P.M.
We also take recording instrument back, to make a better motor to same and

to make some other changes.

May 27.

Am laying out the stoe for bottom of colum.

Burns checked up the recorder.

May 28.

Had an offerating table made to finish up the colum on.

Had photographs of recording instrument taken in various positions.

Am arranging records in scrap book.

May 29.

Burns is making tin guides for putting tubes in colum with.

Am having new irons made for top of colum.

June 2.

Am having four taper tubes made as shown on opposite page.

June 3.

Am laying out a new motor for recorder.

June 4.

Got word that we could beef the Hanoli.

June 5.

Had new irons put on top of colum and had bearings lined up properly in shop. Went to the Hanoli to get measurements to make new crossmembers, the old ones were bent due to the improper alignment of the bearings

Am having a portable sound proof booth made in lab, as shown on opposite page.

June 6.

Am making an attachment for recorder to use the ordinary adding machine paper with.

June 12.

We sold about 1000 feet of paper to use in future tests.

June 13.

I gave Mr. Meadowcroft report and photographs of apparatus to send to the Navy dept, as requested by Mr. Edison.

Tape tubes are finished.

June 16.

Had a letter sent to the Miller Rubber Co. to hasten the

shipment of sponge rubber.

June 18.

Booth is finished.
I am continuously after the Esty wire people in regard to the wire netting which we have not yet received.

June 20.

Received the wire at 2 P.M. brought same over to the Manhattan Rubber Co. and got a promise of one week on the job.

The specifications of the wire are as follows.
18 feet long.
48 inches wide.
#12 guage.
Not. 20 and 22 brass wire.
weight 63 lbs.
72 sq ft.

June 23.

Am having elbows of the proper angle made to use in connection with large rubber tube from top of column to booth.

June 24.

I went aboard the Havoli to bring letters to Capt Travis also to get measurements and to find a place for booth.

June 25.

Ordered 4 - 10 ft. lengths of 5 ply gas hose from the Combination rubber Co.

Am having steam line laid to table for vulcanizing rubber.

June 26.

The new motor on recorder runs 7½ hours with one winding at 500 R.P.M. of governor.

June 30.

Wire inserted rubber arrived.

Cut same and prepared it for putting the sponge rubber on.

Burns is making clamp for shoe.

July 1.

Sponge rubber arrived. Prepared same for cementing to the wire inserted rubber.

Purchased ½ gal of Shaler's vulcanizing cement for this purpose.

Burns worked on shoe.

July 2.

Cemented sponge rubber to the wire inserted rubber, using one coat of Shaler's cement.

Patta on vulcanizing.

July 3,

Prepared margin 1½ inches wide on each side of sheet rubber for vulcanizing.

Laid a strip pard rubber on each margin.

Applied one coat of Stolus cement after sand papering and cleaning with benzol.

June 7.

Done vulcanizing.

Purchased 1 doz. rubber sponges from Minor Rubber Co. in Newark.

July 9.

Fitted tubes to tube and bound and soldered same to prevent rattling.

Placed a sponge at every 8 ft. length on tubes and installed in column by the use of the tin chute previously made.

Laid out a bracket to clamp rubber to top of column

July 10.

Drilled holes in the rubber at bottom for putting shoe on.

Put same in place using white lead in screws and between rubber and brass.

July 14.

Installed diaphrams in shoe using white lead on all seams, joints etc.

4½ in. rubber hose arrived.

July 15.

Finished clamp on top of column.

Ordered 4½" brass tubing to use as connectors for rubber hose.

Am having spacing clamps made to use on the 7th choli so as to make a clear passage way between cables and stays for tubes.

July 16.

Got brass tubing 4½ in.

also 3/4" soft rubber tubing.

July 16.

Myself and Burns are graining up parts of recorder to lacquer.
Am painting crate made to ship column.
Captain Harris called up.

July 17.

Tried to get Capt. Harris on phone but could not.

July 21.

Mr. Meadowcroft had truck ordered to dock for Tuesday morning.

July 22.

Shipped apparatus by truck to the Hanoli at Lackawanna dock at Hoboken.
Myself and Burns went by auto with recorder etc.
Went from Hoboken to 43rd St. and anchored in the Hudson.

July 24.

We are installing the new parts on the outrigger failed to Sandy Hook dock.

Am having a derrick made for the purpose of lifting column hang in water to test also for putting same in place on the outrigger

July 29.

Put column in water at 10 A.M.

Tested for leaks by letting a weight attached to a string drop down each tube.

All diaphrams, joints etc. are <u>water tight</u>.

Let it stay suspended from derrick in the water for 24 hours. tested and found <u>O.K.</u>

We did not put column in place today because the Hanoli was bobbing up and down, the water being rough. There would be danger of the outrigger catching on column and causing damge.

July 30.

Put column in place and assembled the absorber.

Put elbow in place and cut rubber and brass tubing for connecting to the booth.

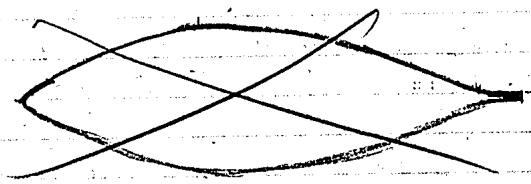
July 31.

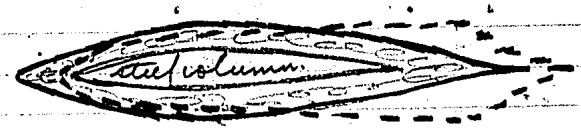
We left Sandy Hook dock at 8 a.m. to get provisions for Hanoli.

The column rides verry good.

The rubber bulges out (streamline form distorted) at the water line due to the pressure of the water.

(10)





The heavy outline is the original form with respect to the steel column or backbone.

Dotted lines show form the rubber assumes when ship is under way at 10 knots.

This causes a terrible wake behind column.

It also causes undue strain on the whole structure

Speed was about 10 knots

It seems to be O.K. at 5 knots.

Arrived at Bensonhurst at 9:30 A.M.

Decided that it will be necessary to make clamps to keep rubber from bulging out.

It would also be advisable to make (metal) a guard for the nose of colum in order to distribute the pressure which is great at the water line. also to protect rubber from coming in direct contact with sticks and other floating debris in the water.

There is a lot of debris floating in the water at times and it is impossible to steer the boat clear of same.

Tested tubes for leaks at end of run. found O.K.

I also inspected the form of the rubber from waterline to stove, and found that the greatest distortion was just below the waterline, it was O.K. near the stove.

Will return to lab. and make guard and clamps.

Aug. 1.

Went in Lab. and ordered 1/16" and 1/8" sheet brass for delivery today.

Aug. 2.

Had small commercial car ordered to take stuff to Bensonhurst Monday morning.

Aug. 4.

Met Burnsides Newark and purchased some more 3/4" rubber tubing, also hose screws.

Proceeded to Bensonhurst, arriving aboard Hanoli at 11:30 A.M.

After coaling ship and watering we proceeded to Sandy Hook dock, arriving there at 5 P.M.

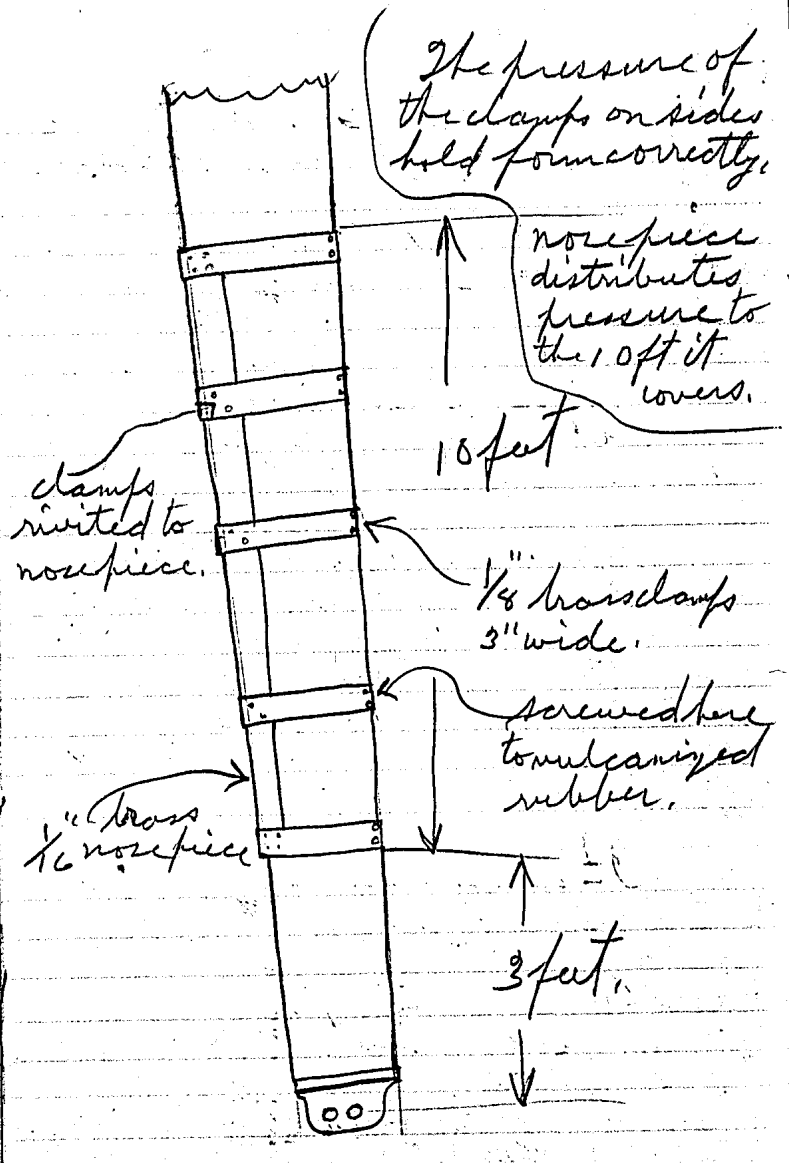
We run slow (4 or 5 knots) so as not to distort rubber too much.

Aug. 5.

Rigged up derrick, removed column from outrigger and placed it on the dock.

After straightening the rubber we formed the nose piece and clamps.

Riveted clamps to nose piece.



The column has been in the water until now for 168 hours. It did not leak a drop.
Hanoli has been under way about 5 hours of this time

Aug. 6.
Finished clamps.
Put column in place at 11 a.m.

Left Sandy Hook dock at 2 P.M. for Bensonhurst.

We run at about 5 or 6 knot speed because of a dense fog.

Column rides O.K.
It does not bulge out at water line now.

Coming in Bensonhurst We run at 18 knots for a short time.
Everything is O.K.

The column leaves quite a wake at 10 knot speed, in spite of its stream line form.

Water was very calm. We did not take any behavior records.

While under way at half speed, I sat on the outrigger and listened in.

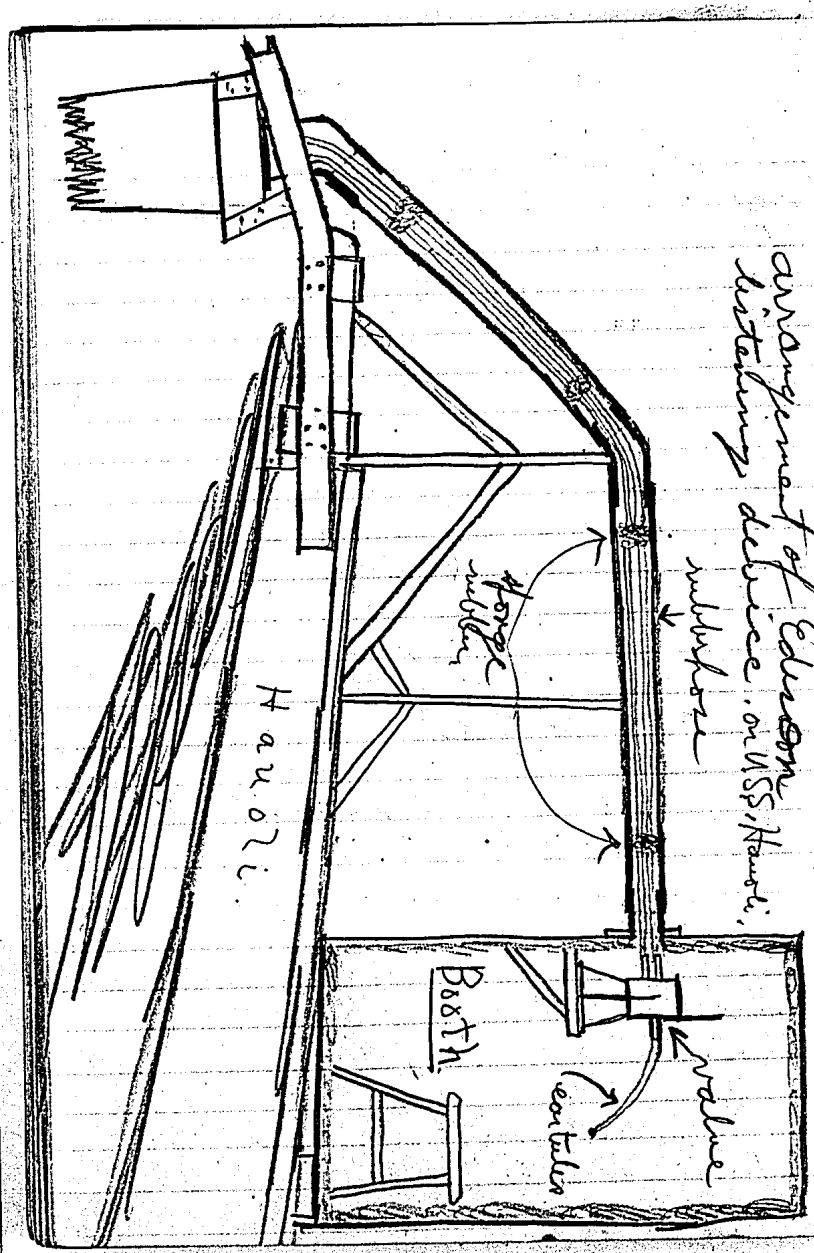
Very quiet, could hear the Fairbanks engine.

Due to the position I had to get in to listen, I could not count R.P.M.

The noise of bow wave through the air also bothered me.

Arrived at Bensonhurst at 4 P.M.

C91J



Proceeded with putting on the tubes from top of column to booth.

Tested tubes for leaks. Found O.K.

Aug. 7

Put the booth in place on the bow of the Hanoli.

Connected up the tubes and the rubber hose covering.

Got everything in shape to go out tomorrow.

The distance from the diaphragms to the ear pieces is 34 feet.

Hooked in the fore and aft boards and valve in the booth.

Using metal ear tubes.

Gravesend Bay, N.Y.

Aug 8.

Prepared to get underway to make a run test to determine the noise of wake (water noises) and to get comparison of noises between our device and M.V. tube on H anode.

I am listening in.
Am using the combination 3 way valve, and the (OH) all metal ear tubes 12 inches long. tapering from 3/4" to 3/16"

Pull anchor at 10:45 A.M.

Very noisy.
Anchor chain running in hawse pipe makes this noise.

Water is very calm in bay. beautiful day.

Recorder is not running.
Had trouble with glass pens breaking, and did not (95)

have time to repair.

10:50 Start main engine at quiet. Device listens very

Hear a submarine chase crossing our bow a few hundred yards away.

I am listening in port and starboard sides.

I count 90 faint beats of Hanoli engine.

Captain says engine is turning 90.

The beats are very faint and hard to pick out.

The noise is about a slight roar.

There is no water noise

at this speed.

I now listen in M.V. tubes at same speed.

Tubes are very noisy. Lot of water noises.

Engine noises are louder than in Edison device but not as clear

(noise is louder only when centered).

Beats are not as distinct as in Edison device.

I now listen in Edison device and have speed increased to 10 knots.

Noise increases a little the beats are in rapid succession now.

Almost a constant roar

No. water noises.

All the noise heard is engine noise. and this does not seem to be very strong

Seems to be distant.

Now 5 knot speed.

The noise diminishes some what. (Lower frequency)

Port diaphrams are very quiet.

Starboard are a trifle noisier.

This is due to the column ending a few degrees to the starboard of the vertical.

Will have to put a large spring in the port side of the absorber.

I now listen in on the M.V. tube, and increase speed to 10 knots.

Terrible water noises, Especially when Hanoli rolls or pitches a little.

It would be absolutely impossible to keep a ship over the noises heard in those tubes.

Noises are present regardless of position of the compensator.

Noise is sickening.

We reduce speed to 5 knots.

I listen in on Edison device.

I hear bell. 10 dings per minute.

Captain Harris says its a submarine bell on the Ambrose light ship.

She is two miles to our port side.

We are sailing away from her at 5 knot speed.

This bell is very loud and clear.

Hear overtones clearly.

Burns listens and hears it.

Captain Harris listens and hears it.

Also Ensigns Allen and Taylor.

I hear a tug boat.

Count 100 R.P.M. very plain

and loud.

Tug boat stops about 1/2 mile away.

I now hear a tramp steamer.

We are still running at 5 knots speed.

I hear tramp steamer over one mile.
Also hear bell buoy.

Had. Captain shut down main engine and all auxilleries, pumps etc.

We are now lying too

We are rolling and pitching a little.

There is absolute quietness in ear tubes.

Pitching and rolling does not cause the slattest bit of noise.

When I state absolute quietness, I mean it in the full sense of the term

Engineer now starts the auxiliaries and main engine in the following order and time.

Main exaust to condenser	1:25 P.M.
Circulator.	1:25
Feed pump.	1:25
Air pump	1:25:30
Generator.	1:26:30
Blower engine	1:26:30
Main engine.	1:30

The generator makes the most noises of all the auxilieric

The main engine drown out the other pumps etc.

The main engine noise is a steady roar with a beat just having a distinctness that can be heard above the roar and can be counted

I count 92 beats.

Engine R.P.M. is 90.

The noise seems to be distant.

This is due to the position of the diaphram with respect to the point of sound propogation, and to the fact that we are running from the sound.

The device is in the proper position scientifically

It would not be necessary to do any cancelling out.

Am still hearing bell.
Running at 5 knots.

C117]

Hanoli is pitching and rolling to some extent. This does not interfere with listening whatever.

Except that as the column raises and lowers in the water, the quality of the sound varies a little.

Only the quality.

I now listen in Mr. Vitales

Terrible noisy here at 5 knot speed.

Cant pick up the bell at all

I go back and listen in Edison device.

We are now 5 miles from ship with bell on.

I hear it very plain long

Bruno hears it.

Captain Harris hears it.

Ensigns Allen and Taylor also hear it.

Captain Harris and Myself hears bell plain and loud at 6 miles distance, running 5 knots speed.

We got distance by bearing of charted buoys, etc.

We now turn around and run head on to light ship at 10 knot speed.

I am listening to pick up bell.

When Hawoli runs at 10 knot speed, her bow vibrates up and down a lot. This causes the brass tubes to jump up and down in the rubber hose.

Tubes hit hose at times and this is bothersome.

Will have to put more

sponge rubber supports in hole for tubes to overcome this.

However I picked up the bell at 2 miles distance running at 10 knot speed, and heard it for 2 miles after passing it.

Best ever.

When within a few hundred yards of lightship I listened in M.V. tubes but could not hear the bell. Could not pick it up at all.

We now come in as it will be necessary to fix up the tubes before we can get any further datta accurately

We come in at 5 knots speed so that if column hits anything it won't be liable to damage.

I pick up a tug boat on the starboard beam about 1300 yds distant, very plain 80 R.P.M.

This is the best device that I have ever listened in on. It certainly is remarkably quiet, and entirely free from water noises.

Burns, Capt. Harris Allen and Taylor listened on both the M.V. tube and Edison device.

They said there was no comparison.

The Captain requisitioned a range range finder

from the Navy Department for the purpose of getting accurate distances in the future experiments.

All Naval Reserve Men and duration of war men will have to be released from the Navy by August 11th, this will leave the Hanoli with a crew of only 21 men.

The captain put in a request for enough men to make up an operating crew so as we can continue experiments.

It will be Tuesday at the earliest before we can make any further tests

Gravesend Bay.

Aug. 9.

Removed the phonicon-taining brass tubes and put another sponge in each length making 4 sponge rubber supports in one length and 3 in the other.

Corrected alignment so that column will make vertical.

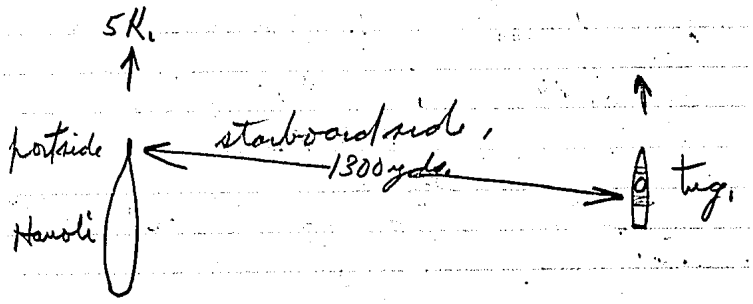
Made out a report to send to Mr. Edison.

Burns left for home.

Aug 11.

I went in bath with report, returned to ship in afternoon.

Burns returned in evening.



Could not hear tug on the port side.

Gravesend Bay N.Y.

Aug. 12.

Fixed up needles for recorder, and got it in working order.

Went out to listen for ships.

Lift anchor at 11:30 A.M.
Sail out at 5 knot speed.

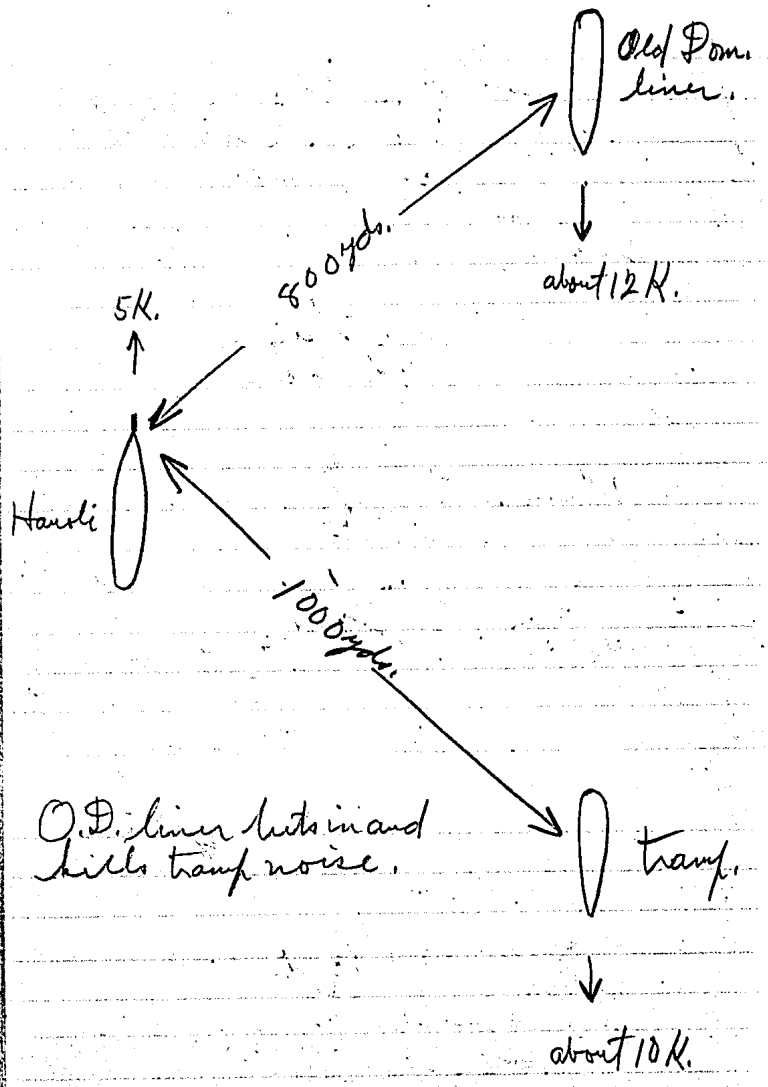
I am listening in port and starboard sides.
Water very calm.
Just hear Hanolis engine.

I hear a tug boat about 1300 yards to our starboard beam.

Cant count R.P.M. (his)
They are mixed up without own boats R.P.M's.

Cant discern him on our port diaphrams.

I hear a bell buoy.
The bell is not clear through the tubes, it sounds like a dull



thud.

I guess it is the sound of the clapper transmitted through the framework into the water

(The bell is in the air)

Can hear the thud much sooner than the ring through the air.

I hear a tramp 1000 yds to the starboard stern.

Count 88 R.P.M., very loud. 264 beats (very rapid).

Propeller is out of water.

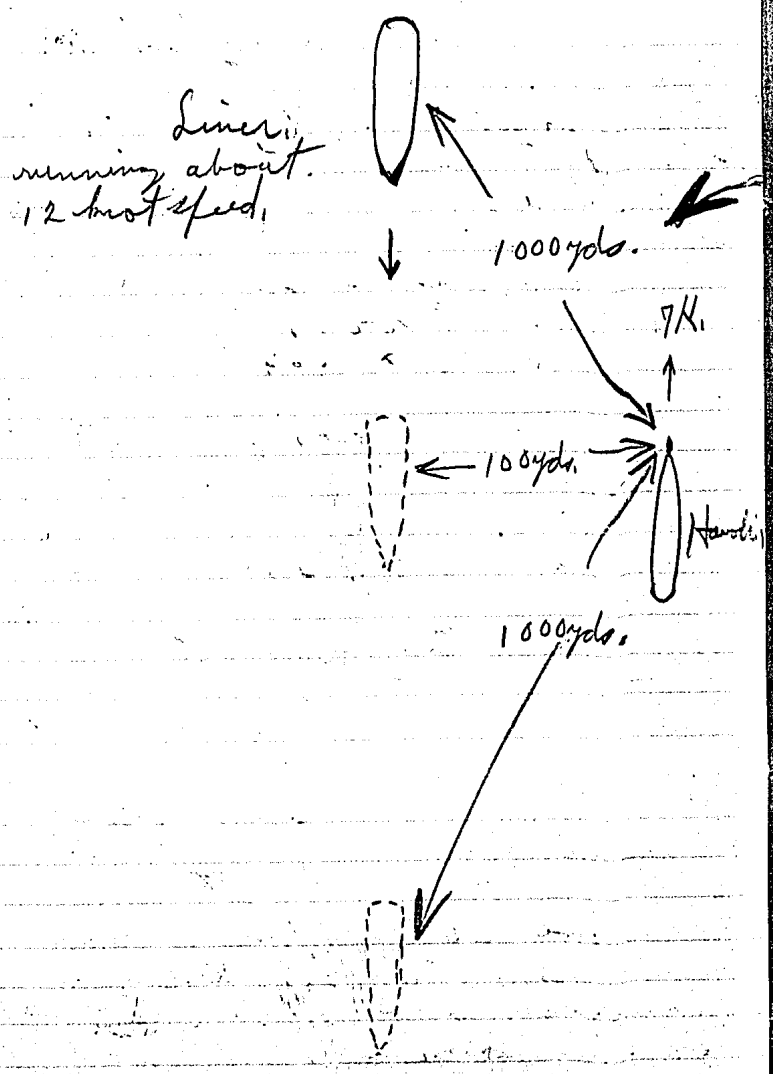
An old Dominion liner butts in.

I hear her plain, 72 R.P.M. Beats are slow, very loud.

I hear a liner on the Port bow, 1000 yds distant.

We pass her 100 yds to beam.

I loose her 1000 yds to port beam.



We are running 7 knots now.
I count 153 beats (51 R.P.M.)
Beats are fast.
There is one very loud beat.

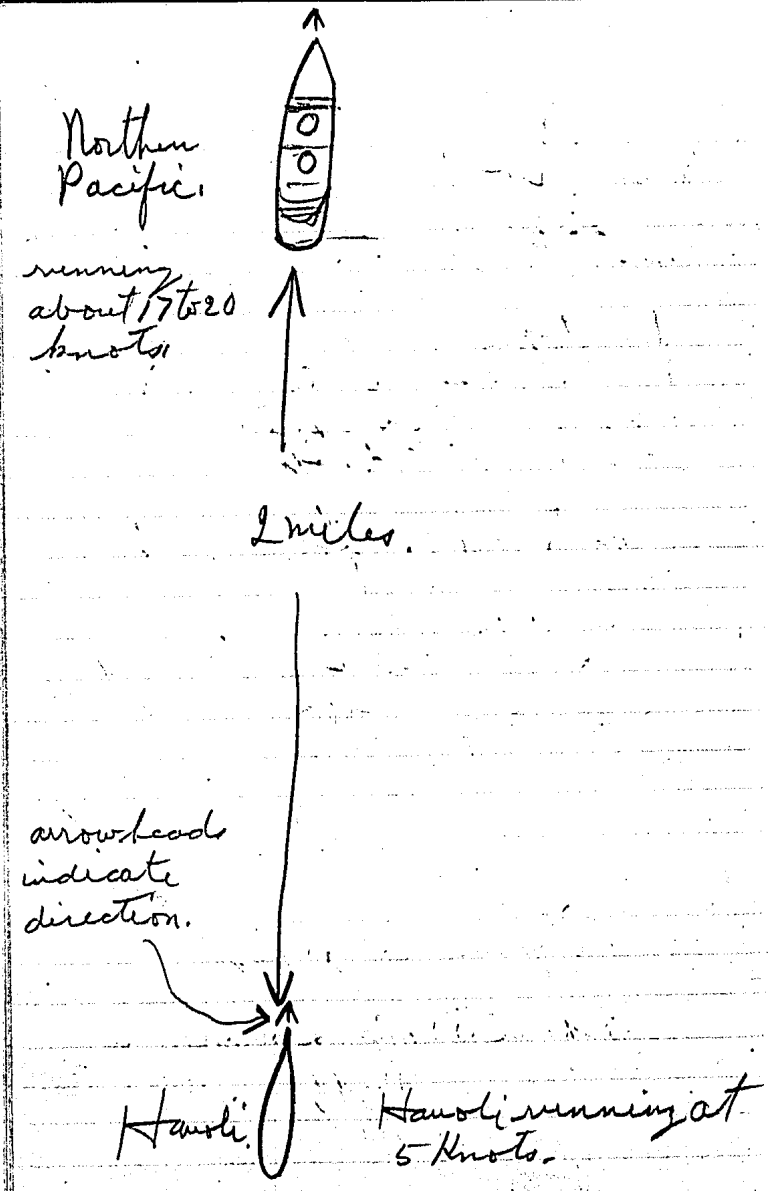
Hear another ship 1000 yds. to port bow.
Count 240 beats.
60 R.P.M.
Loose at 800 yds to port stearn.

(Similar to previous case)

Hear Ambrose lightship bell very plain. 10 dings per minute.

We are now running at 5 knot speed.

Hear a very loud roar.
It's the Northern Pacific maneuvering to take on a Pilot 500 yards away.



Terrible noisy, cracky, steady roar,
~~She has turbines.~~
She stopped.

We turn and run from bell
I want to get distance that
I loose it on our steam,
Running 5 knots.

Northern Pacific starts up again.
Very loud noise.
Something like a torpedo only of a lower character.

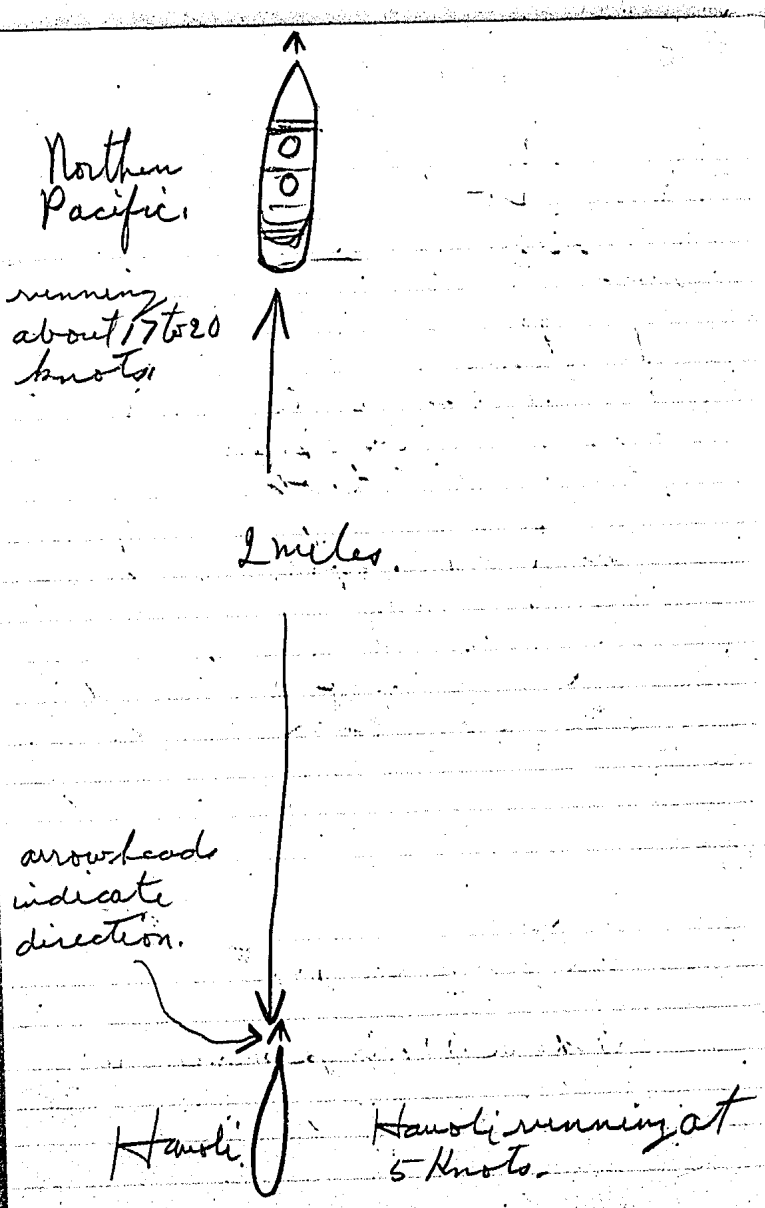
Still hear bell.

N.P. is 1500 yds away to our bow,
Very loud yet.

I hear N.P. to 2 miles away.

Other ships butt in.

Cant hear bell any more.



Terrible noisy, cracky, steady roar.
She has turbines.
She stopped.

We turn and run from bell. I want to get distance that I loose it on our stern.
Running 5 knots.

Northern Pacific starts up again.
Very loud noise.
Something like a torpedo only of a lower character.

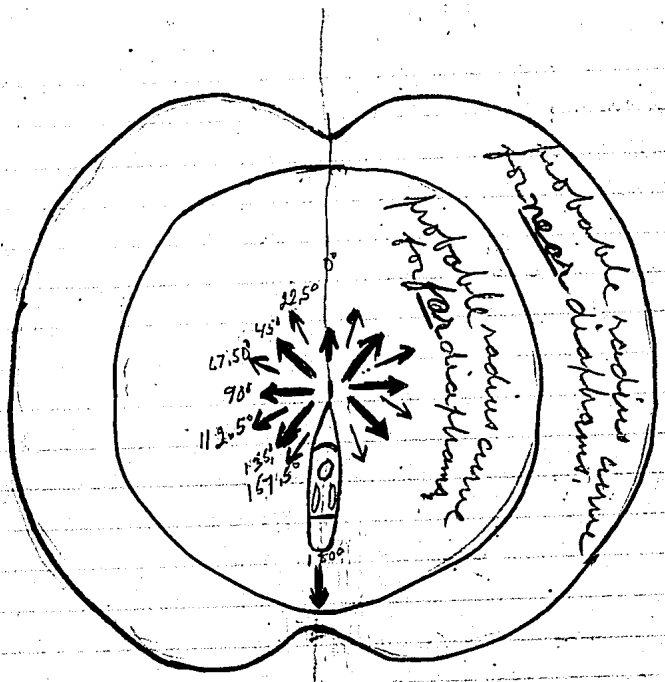
Still hear bell.

N.P. is 1500 yds away to our bow.
Very loud yet.

I hear N.P. to 2 miles away.

Other ships butt in.

Cant hear bell any more.



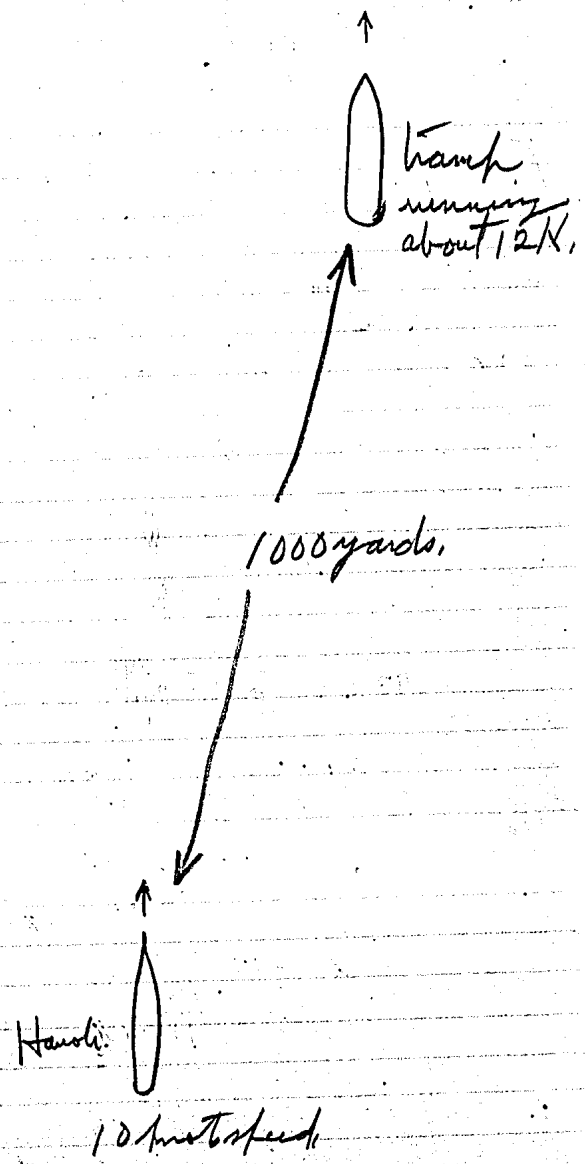
Get distance sound can be heard at all the above positions at 5 knots speed.
Get nearest diaphram distance and far diaphram distance.

Then get distance at various speeds.

too many ships around interfering.
Foghbell at 4 miles distance.
I wanted to get the distance bell could be heard when Tamoli was running to and from it at different angles, as shown on the next page.
Also wanted to see how the sound diminishes as the speed of Tamoli is increased.
It will be necessary to get this datta electrically.
So that we can confine our tests to a closer area to the source of sound and to eliminate the interference of other ships.
(cut down sensibility)

Cant do this out here today

We heart a tramp steamer
We run at 10 knot speed.
I count 168 beats.
She stopped to take on a Pilot.



She starts again and we run after her at 18 knots speed.

I hear her for 10.000 yards to our bow.

She is running much faster than we do.

Other ships interfere, such as tugs etc.

Cant do much out here today.

We now come in.

Had recorder running. It run about ½ hour and one of the main springs broke.

I will go in lab. tomorro and get electrical apparatus 1 stage audion etc.

Captain says he will go to Navy Yard to get rangefinder

Gravesend Bay.

Aug. 13.

Myself and Bains went into Lab.

Brought the following material by ford car to Hanoli.

1 Stage audion.
3 Bell receivers.
2 Headsets (receivers)
Weston voltammeter
2 Rec. boxes.
50 ft. wire.
2 audion bulbs. V-type.
2 straps of 1/8" brass.
phonograph spring for recorder.

Gravesend Bay.

Aug 14, /19.

Repaired spring in recorder and got same in running condition.

We intended to go to Sandy Hook today to put on extra clamps on column.

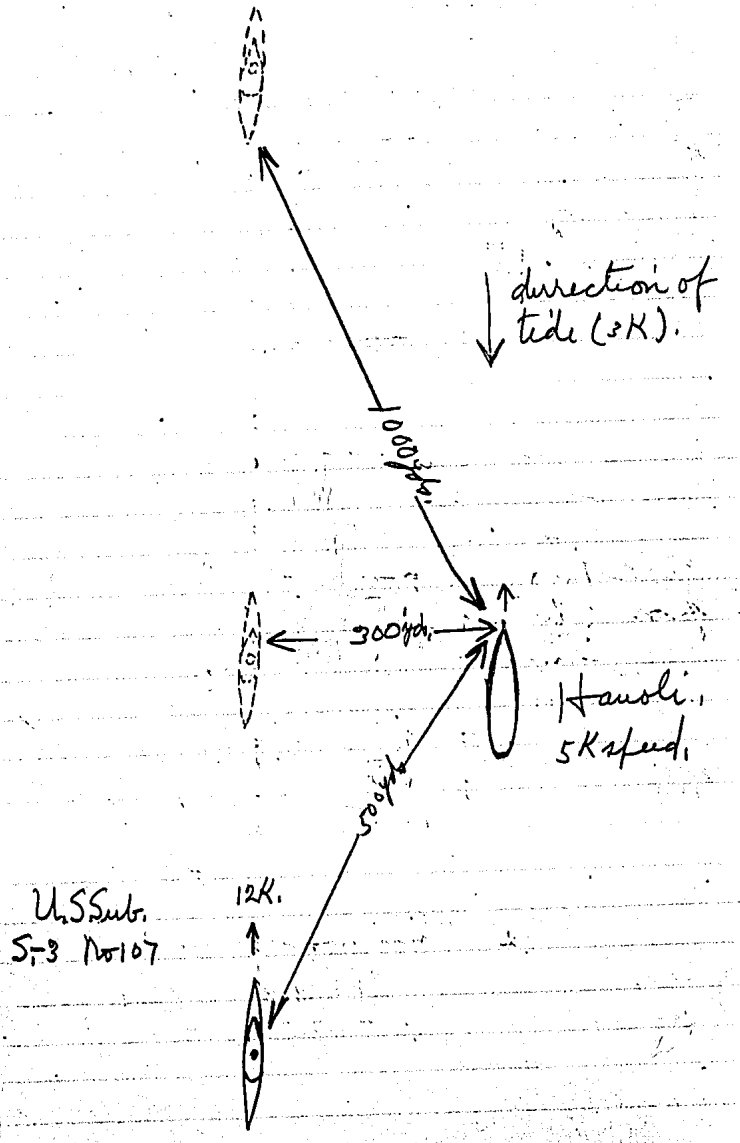
It is so stormy that we could not tie up to the dock there so we decided to go to 79th St. dock on the North river.

We left Bensonhurst at 2:45 P.M. enroute the blower engine broke down.

We were towed in to our dock by a navy tug, arriving at 7:30 P.M.

While we were coming in the lower bay running at 5 knot speed a U.S. submarine (S-3 No 107) overtook us.

She passed us on our port side running at a speed of about 12K.



I listened in and heard her about 500 yds. to our port steam, she passed about 300 yds. abeam.

Shot her at 1000 yds to our bow, a tug interfered between Hanoli and Sub.

While in tow coming up the North river the same submarine passed us coming down the river.

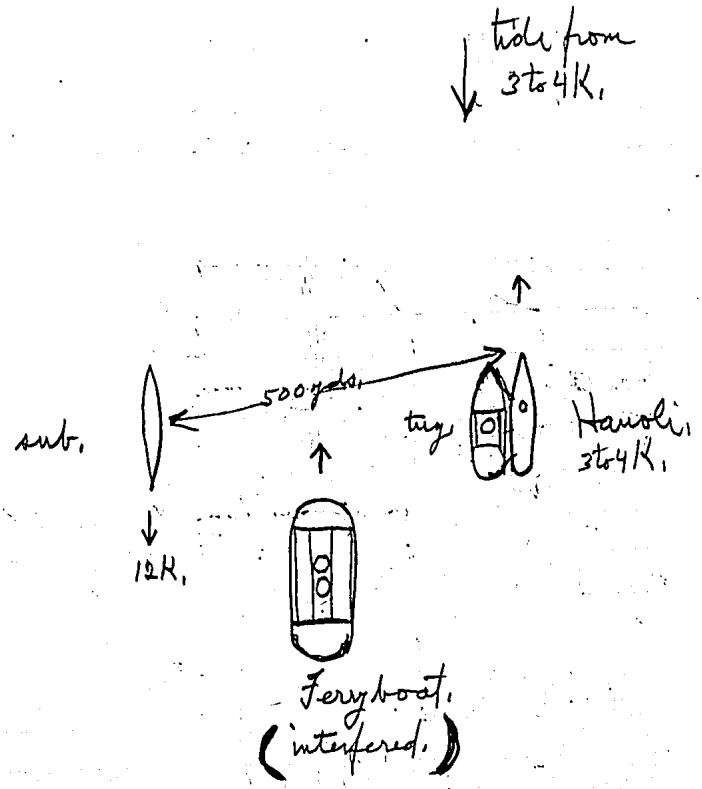
We were being towed at about 3 to 4 knots against a tide of from 3 to 4 knots.

Sub was running about 12 knots.

I heard her when she was about 500 yds to Port beam.

Ferry boats and tugs interfered.

The sound was a steady roar similar to the sound of the Northern Pacific, but of a somewhat lower character.



Aug. 15.

Rigged up derrick on 79th St dock and removed colum from outrigger.

Found that the horseshoe on the bottom of colum was bent to one side.

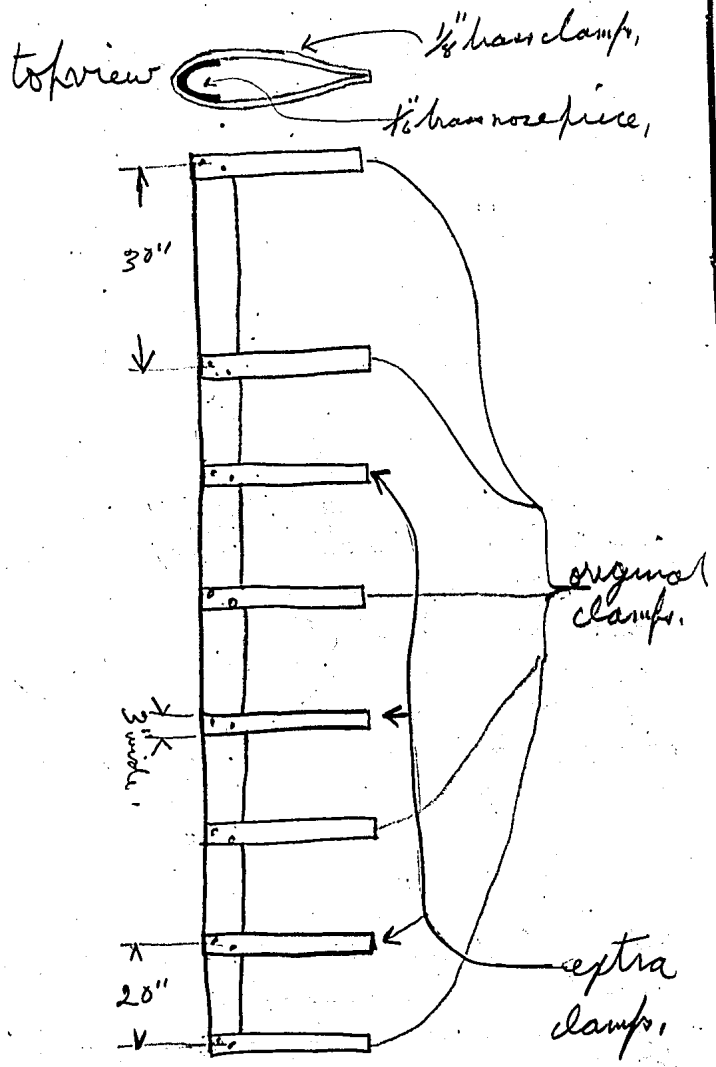
This was caused by the anchor chain hitting ~~a rock~~ when Hanoli was swinging and tugging while at anchor in Gravesend Bay during the storm of the 13th and 14th of Aug.

We removed the shoe entirely from the colum to straighten the tubes.

We also removed the nose piece with clamps on.

Found a large dent in the press nose piece where it had come in contact with a piece of wood.

If it were not for the fro-



tection of the clamp, the rubber would have been injured.

We put three more clamps in place on nose piece as shown on opposite page for the purpose of further protection and to give column a better form.

Aug. 16.

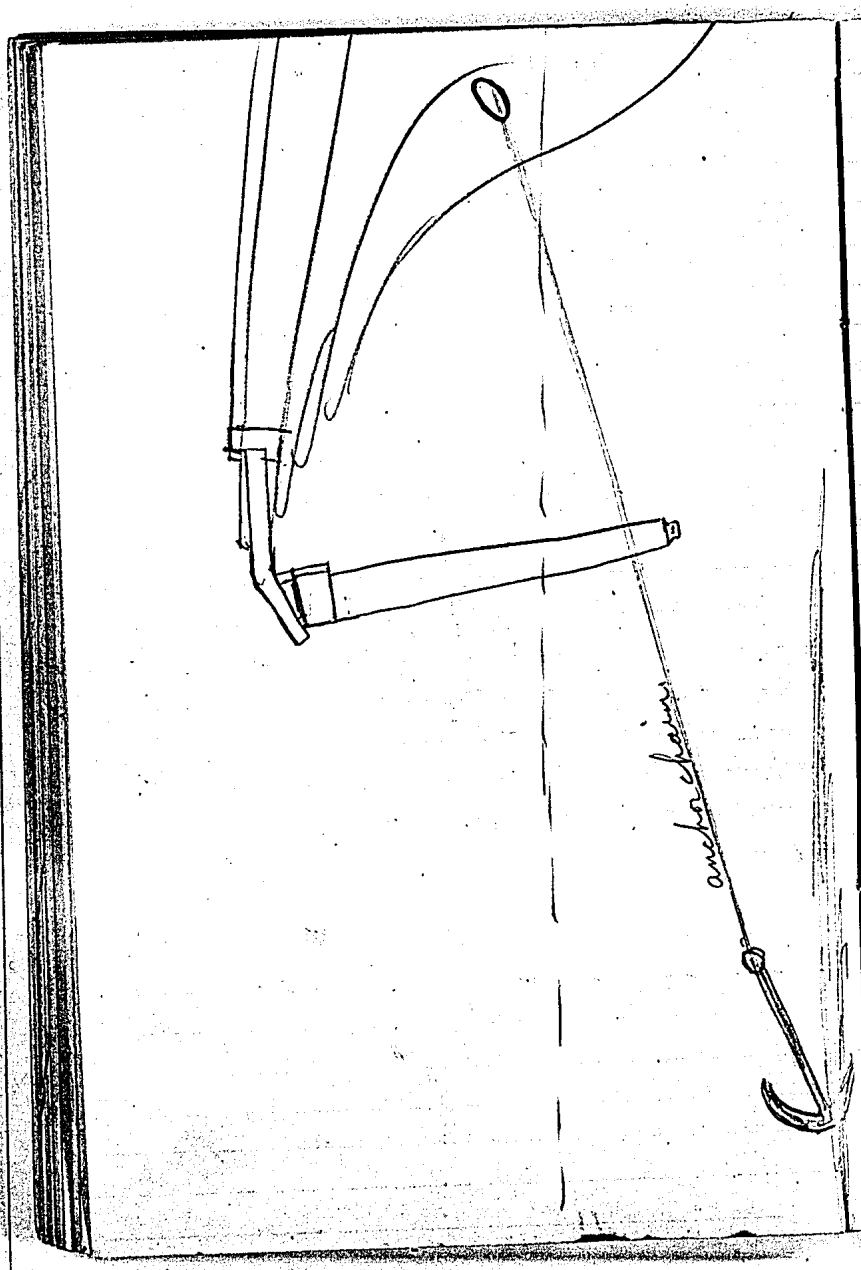
Removed kinks and straightened up the lower part of tubes where they were bent.

There was no damage done as the result of the chain hitting the rest of the column.

The rubber covering is still intact.

Purchased screws and white lead to assemble shoe again.

In the future we will have to keep tied up to a dock as much as possible, because in order to hold a ship while at anchor m



a storm it is necessary to let out anchor chain to a length about 3 to 4 times the depth of the water.

When the chain is taught it lays at a sharp angle and this would always be dangerous to our appalatus.

During calm weather the chain lays on the bottom as the weight of same is mostly enough to hold the ship.

Myself and Burns left for home in the afternoon.

Captain Harris had the broken parts of blower engine sent to Navy yard for repair.

When repaired We are going to Sandy Hook dock.

Hudson River New York.

Aug 18.

Myself and Burns returned to Hanoli.

Wet weather today.

Aug 19.

I went in Lab. to see Mr. Edison.

Burns is putting new clamps on nose piece.

Returned to ship in the afternoon.

Fixed up diaphams in the brass shoe.

Aug 20.

We put clamps in place on column, also put shoe in place and got every thing in readiness to move to Sandy Hook dock.

Two more men left the Hanoli today leaving only 19 men in the crew now.

Fixed up a bank of lamps to use as resistance in charging batteries for the audion.

Engine parts have not returned yet.
Expect them tomorrow.

Aug. 21.
Repaired engine parts came from Navy Yard.

We charged our batteries

Captain got a letter stating that range finder has been shipped from Washington.

We are now waiting for <u>coal</u>.

Order of tests, to get sufficient datta on device.

No. 1. Get speed of the Hanoli. relative to the engine R.P.M. (Do this before putting the column in place)

No. 2. Get ranges of audibility of device at various angles of ship with respect to the source of sound, (Use some constant source of sound).

No. 3. Get ranges of audibility at various speeds of ship.

Sept 14/19.

Left Sandy Hook dock at 8 A.M. proceeded outside, towards Ambrose lightship.

Count 80 RPM of Hanoli engine. (very clear)

Hear a tug very loud about 300 yds, to our star board side.

Increase speed of Hanoli

I count 160 RPM.

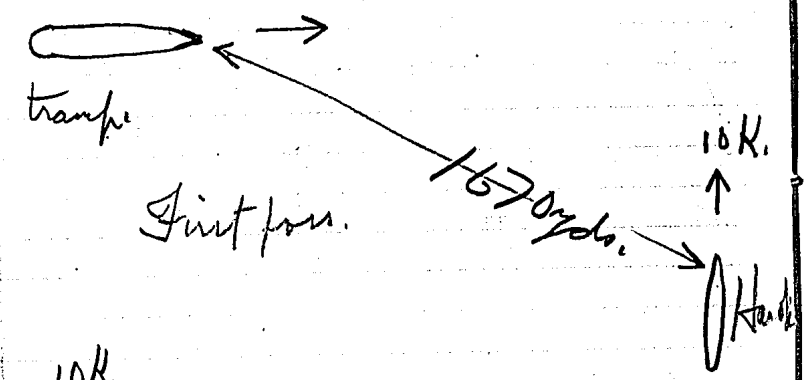
(160 RPM is 10 knots)

Noise heard is purely engine noise, and does not seem to be very strong.

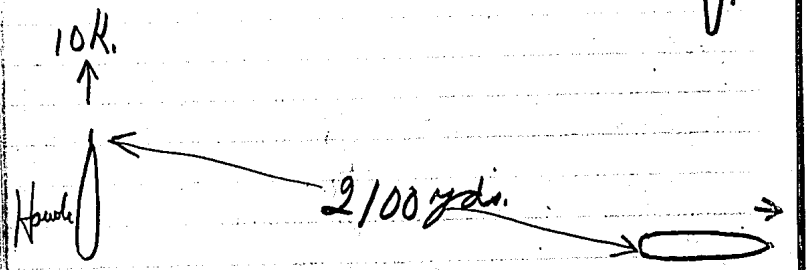
Weather is fine today.

Water is calm.

I hear a tramp steamer



First fog.



Fooying fog.

running about 10 to 12 knots.

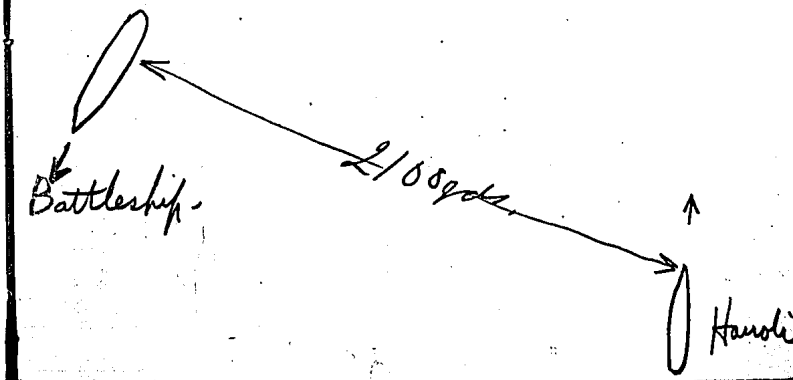
sailing at right angles to us, crossing our bow. I pick up the sound at 1670 yds.

I hear her plainly to 2100 yards, to Starboard.

Cannot count her R.P.M. They are mixed up with ours.

I pick up the sound of an Italian battleship at 2100 yds. distant.

There are other ships around that interfere now.



Going head on to Ambrose light ship.

I cannot pick up bell

Bell not ringing.

We asked Captain to ring bell.

Bell started at 9:43 A.M.

We start away from light ship at 9:45 A.M. At 10 knot speed.

Bell is terrible loud near by. Can be heard about 1 foot from ear tubes.

12 dings per minute.

We want to get the point where we loose bell running away from it at 10 knots

We are now 5550 yds. from bell running at 10 knots.

Bell is very clear and loud yet.

RPM decreases to 145 (Cant keep steam up in the engineroom) poor coal.

We are out of sight of light ship, cant get range anymore.

Lost bell after listening for 40 minutes.

At 10 knot speed the distance should be

14,815 yds. or 7⅓ knots.

this is not right. as speed fell below 10 knots.

We stopped engine.

I hear bell again very plain.

We continue course

away from bell at 5K
speed. 90 RPM of engine.

We have to get distance by
the position of ship on chart

This distance I hear
bell at 5 knot speed is
indicated on chart by the
numeral I

This distance is approx
imately 6,5 knots.
or 13.171 yds.

We now continue to
sail away and stop main
engine to learn distance
bell can be heard,

(But leave auxiliries
running)

This position is shown
on chart by numeral 2
and is approximately 7.5 knots.
or 15 197 yds.

We now face head on to bell, to determine the distance in the opposite direction.

Lying too. (amplifier running)

No. 2 is position.

We now present our port beam to light ship.

I hear the bell very faint

It seems to be about the same intensity at all the above positions.
(Lying too)

We now sail abeam of light ship, back and forth coming closer each time.
speed 5 knots RPM. 90.

Position 3 on chart shows distance. 7 knot. 14182 yds.

We start at a buoy that is exactly 8106 yds from the light ship.

Sail away with steam to light ship to repeat the first test.

Speed 10 K. RPM 154.

Sloop fell suddenly 3000 yds, from buoy.

The distance is 11106 yds from light ship.

Position 4 on chart shows this distance, which is 5.48 knots or 11106 yds.

We now reverse course and head for light ship

time 1:21
Speed 10 knots.

1:26	2100 yds
1:27	1610 "
1:29	1150 "

I cannot hear the bell any more. (Not ringing)

We run in to the light ship.

We pull along side of light ship and ask keeper what time he stopped his bell.

He said 1:15 PM.

This is time I lost bell at 3000 yds from buoy.

Captain asked keeper to continue ringing bell until we return.

Bell starts at 2:32.

We run away from ship at 140 RPM. 8 knots speed.

Increase speed to 10 knots at buoy 4 miles from bell

120 R.P.M.

Hear bell 2400 yds. past buoy. 10506 yds from light ship.

Turn ship and head for bell. at 10 knots 160 RPM.

Pick up bell 2400 yds. from buoy.

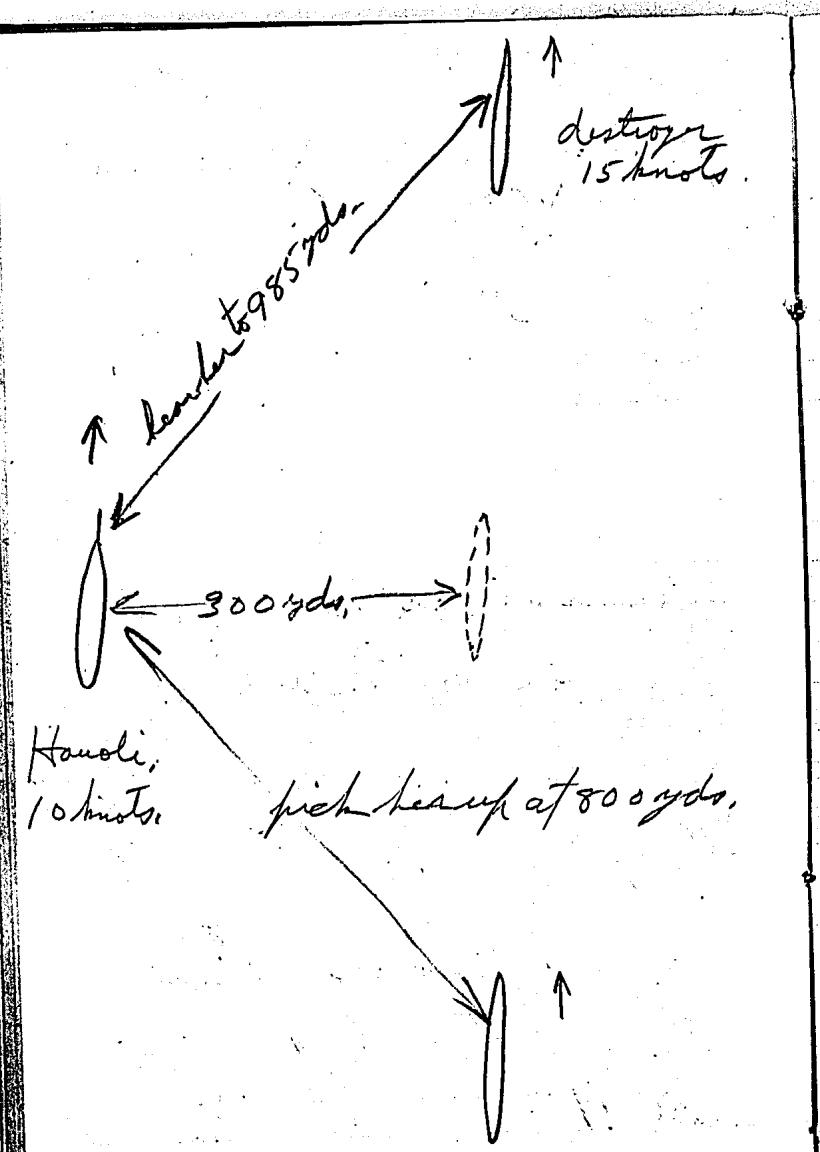
Sail abeam of light ship.
Hear bell at 2400 yds. from buoy.
10 knot speed. 160 R.P.M.

We now run in near light ship. to listen to some ships.

There are not many ships running here to day.

We are getting in position to listen to a U.S. Destroyer No. 153.

She is overtaking us on our starboard stearn



We are running 10 knots
160 R.P.M.
She is running about 15 K.

I hear her 800 yds to star
board stern, and hear
her to 985 yds, to our star-
board bow.

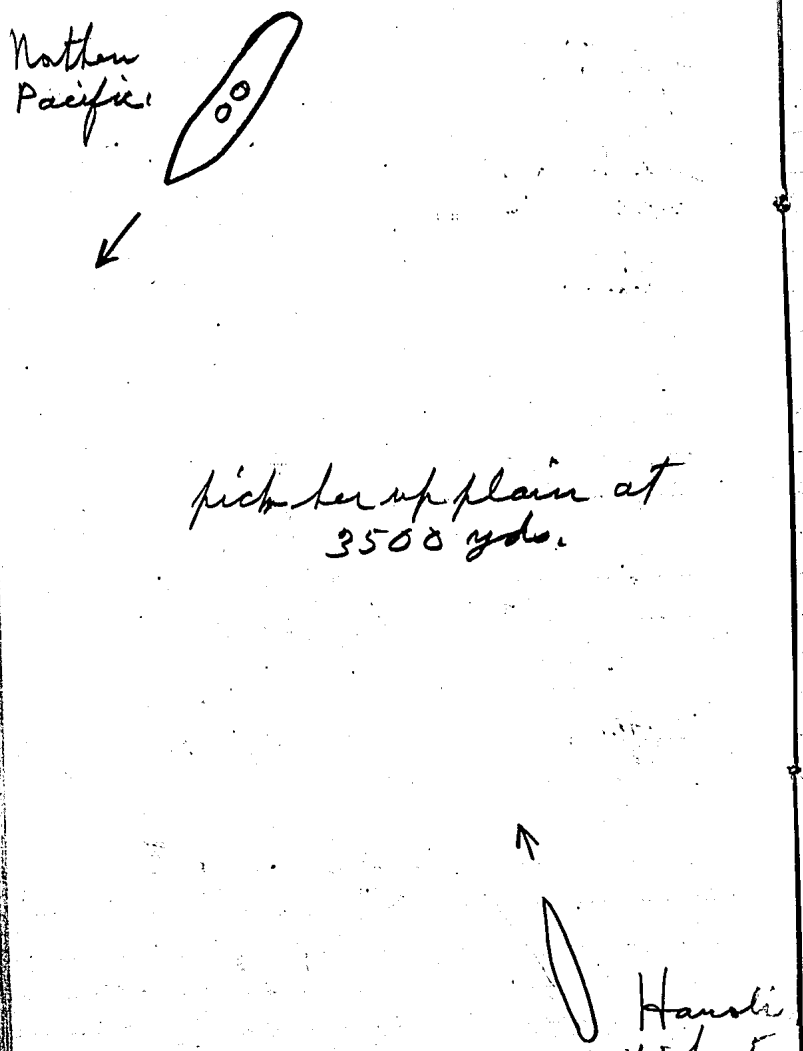
Loud steady roar.

(Turbines)

She passed up at 300 yds.
to our starboard beam.

Terrible loud at this point.
(roar)
A destroyer cannot be
heard at a great distance
It must be due to their
shallow draft.

We get all the distances
with the range finder.
Barr & Stroud make
FQ type No. 11. 42 inch base.



Big passenger boat coming out.

I hear her dead ahead at 3500 yds.

We are running 10 knots.

Very loud at 2250 yds. drowns our own boat noise entirely.

She stops to drop Pilot.

Terrible cracking noise can't listen to it. (Continuous crackle.)

We stop, and wait for her to start again.

It is the Northern Pacific. (Turbines)

Hear pilot boat running

Northern Pacific starts up again.

0812

just hear her at 3500 yds.

We are 690 yds. from her

We start up.

Terrible racket

We follow her at 10 knot speed 160 R.P.M.

Noise getting weaker.

Still very plain and discernable at 2700 yds.

Scratchy noise like diaphrams rubbing along sand.

Hear her to 3500 yds.

All the foregoing data was obtained by listening direct with ear tubes. (No amplification)

I will construct charts to show the relative ranges of audibility at various

speeds of ship.
Also the ranges when ship is at the various positions relative to the point of sound propagation.

Below are some of the ranges on bell for quick reference.

Max. distance lying too.

7.5 Miles (Nautical)
15197 yds.

Max dis. at 5 knots.

6.5 Miles
13171 yds.

Max dis. at 10 knots.

5.46 Miles.
11106 yds.

Return to Sandy Hook docks arriving at 6.30 P.M.

Removed device from outrigger and sailed into the lower bay.

Anchored overnight in lower bay.

Sept. 15.

Proceed into dock at Brooklyn Navy Yard to coal up.

Myself and Burnett Hanoli for Lab.

Reported to Mr. Edison.

He wants all lab. equipment removed from Hanoli.

Burns is to do this.

Van to continue on

the storage battery job.

[ITEM(S) FOUND IN BOOK]

May 18
6

start New S...
2 35 PM
roll and pitch record
changes min.
stop at.
blue ink is roll
red is pitch
stop at 2 40 P.M.

Race point light, 3
start record, 3 30
heading of S 1/2 E.
change course due S.
4 to 7 min 30 sec.
south wind.
change course S 1/4 W. 4 8

May 19
2

Block Island sound,
change course S 1/2 W.
4 12

3 19 PM changing
course continuously
enter F. P. bay 4 21
~~drifted south~~

stopped engine 4 30
drifted south at 4 32
stopped recorder, 4 34
maneuvering.

[ITEM(S) FOUND IN BOOK]

Left Pond Bay, Inlet, start 6.32 A.M.
start record. 6.33
water dead calm.
start full speed. 6.35
speed about 12 K.
slight east wind.
B. Sound.
6.55½ A.M. changing course
airplane stopped 6.56
changing course 7.2
" " 7.3
change course S.E. ¼ E.
7.14½ A.M.
Montauk light abeam
7.19½
swells.
approaching outside 7.24.5
changing course 7.25

May 20.
No 2

about 2 miles out in ocean
of Montauk Pt. 7.32
heading S.E. ¼ E.
RPM of engine 7.40 A.M.
200
heading S.E. ¼ E 7.43
changing course 7.44
West by South 7.46½
sailing abeam of the
swells. on W. by Southerne.
beautiful weather.
slow at 7.56
stop record 8 A.M.
course W. by S. con-
tinuously.

[ITEM(S) FOUND IN BOOK]

No 3. May 20

start record at 11 A.M.
ships position. 7 miles West of Shinecock light
" heading. W. by S.
Engine R.P.M. 210.
stop record. at 11 30 Ballast 54
ships position. abeam
heading W. by S.
18 miles SW of Shinecock light.

No 4. May 20.

3 P.M. about 7 miles East of Shinecock light
ship
ships heading
W ½ N.
starts to rain.
Ambrose light-ship 3 40
made 16 knots for a time
around 3 30
change course 4 30
entering narrows 4 32
slow speed.
half " 4 40
full " 4.41
Lower bay 4.48
passed Staten Island at 5-9

[ITEM(S) FOUND IN BOOK]

No 5. Mg 2.0.

approaching Northerne.
5-14
reach ~~[illegible]~~ St. at 5,45
79
turn to dock. to water up.

[ITEM(S) FOUND IN BOOK]

Data for May 2d

[ITEM(S) FOUND IN BOOK]

New York
May 23, 1919.

start 12.2 P.M.,
coming out of Sandy Hook
about 15 mile wind,
heading S.W. down
the North river.
water calm in river.
R.P.M. of engine 175

It was very foggy in
the morning.
fog lifted about 1 P.M.
1.22 P.M.
wind increasing in
velocity, direction S by E
[illegible]
of state
1.22 P.M., heading SW ½ S
12,40

2

upper N.Y. bay. 12.45 P.M.
heading 12.45 S.S.W.
changing course
1. P.M. Narrows.
slow speed 1.2 P.M.
lay to 1.8 P.M. off Ft. Wadsworth
Start again 1.14 P.M.
1.15 P.M. W. get in low
wave of Morro Castle.
Sea off N.Y. Bay.
wind blowing south
1.23 P.M.
wind about 25 miles
white caps present 1.25
choppy.
heading S. ¼ W. 1.30 P.M.
Ambrose channel.

[ITEM(S) FOUND IN BOOK]

3

heading S.E. by S. 1.42
S E 1/4 S. 1.45
S E 3/4 E. 1.46
S E 1.56

Water broke over Bow 2.08 +
S E ½ E. 2.09
shut down 2.13
going out of channel
2:14 - stopped - lying to
2:29 - full speed S E ½ E 2.30
ship heading 2.35 S E ½ E
" " 2.42 S W by S.
whistling buoy and light
ship between 2.48
Scotland light ship 2.55
changing course 2.59
E.N.E. 2.30

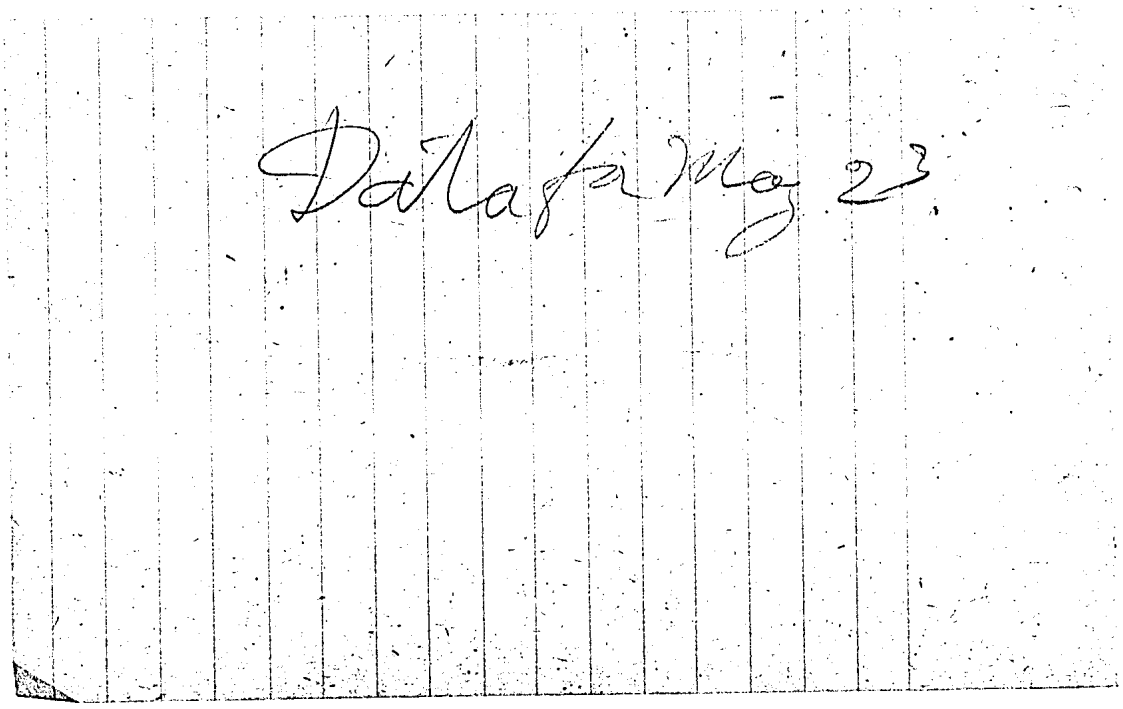
stop record at 3.5 to
repair.
start at 3.10
heading North 3.15
S E by S ½ S. 3.20

Off Ambrose Light Ship 3.35
N.W. by W. 3.43
change course 3.48
Stop engines 3.50
Start 4.12
N W by W ½ W. 4.15
N W by W. 4.18
change course 4.24
S by W. 4.25
Half Speed 4.33
Full Speed. 4.44
N. N ½ W. 4.47

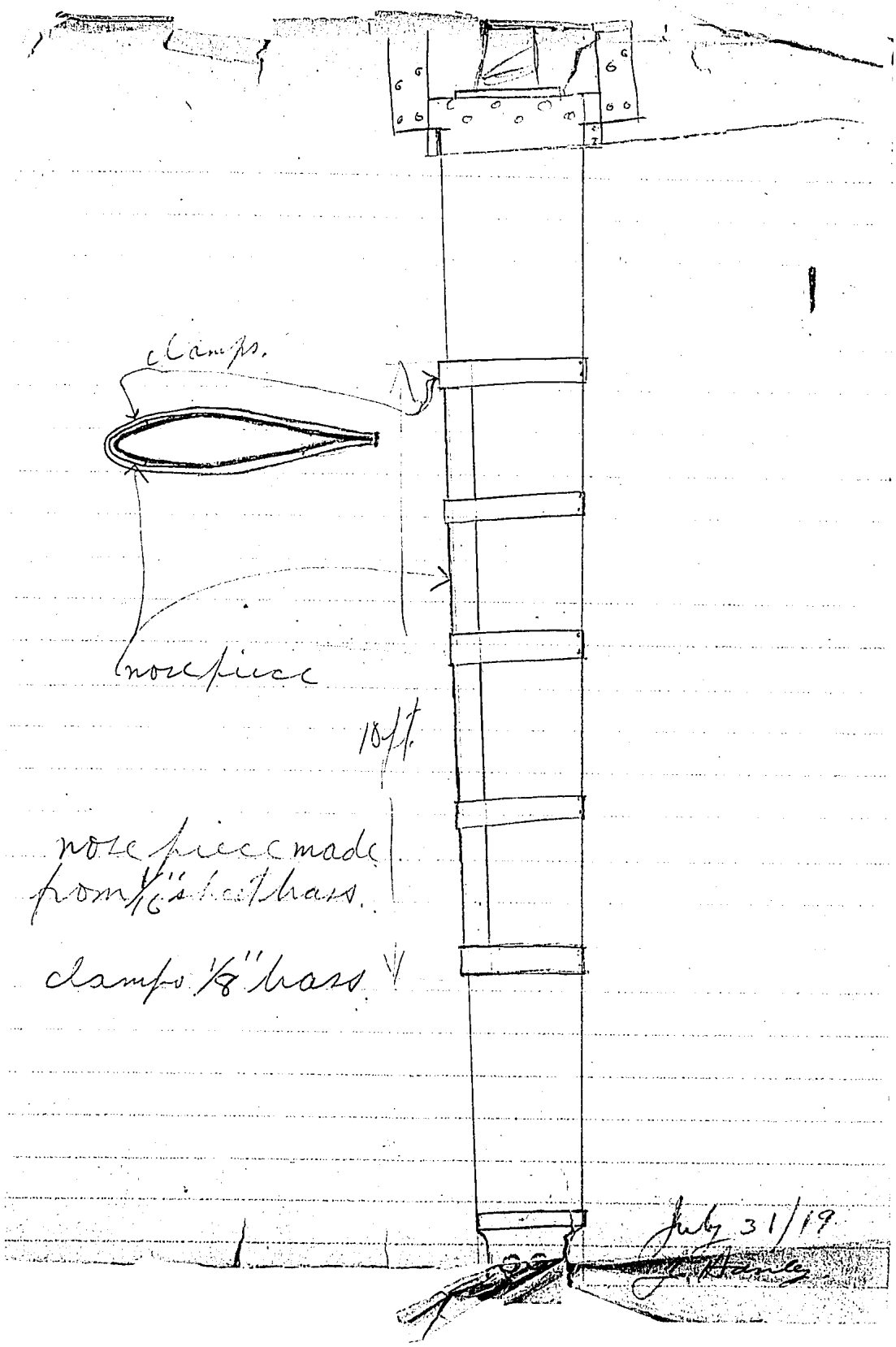
[ITEM(S) FOUND IN BOOK]

Change course 5.21
Change " " 5.33
Entering the Narrows 5.50
Passing Statue of Liberty 6.20
Crossing North River 6.29
approaching 79th St.
stop engine 6.55
very calm.
~~tied up to stake at 79th St.~~
~~directly Cove 6.5~~
maneuvering 6.58 to
make dock.
tie up at dock at 79th St.
Stbd full speed 7.6
stop record at 7.10 PM.

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]

July 31 - 1918 -

Start 8.15 turning around at Dock
Full speed ahead 8.19
Change bases 8.27
Stop 9.15

[ITEM(S) FOUND IN BOOK]

Aug. 8, 1979

pulling anchor
at 10:45 AM, (noisy)
Water very calm
start motor engine
slow 10:50
stop 10:51

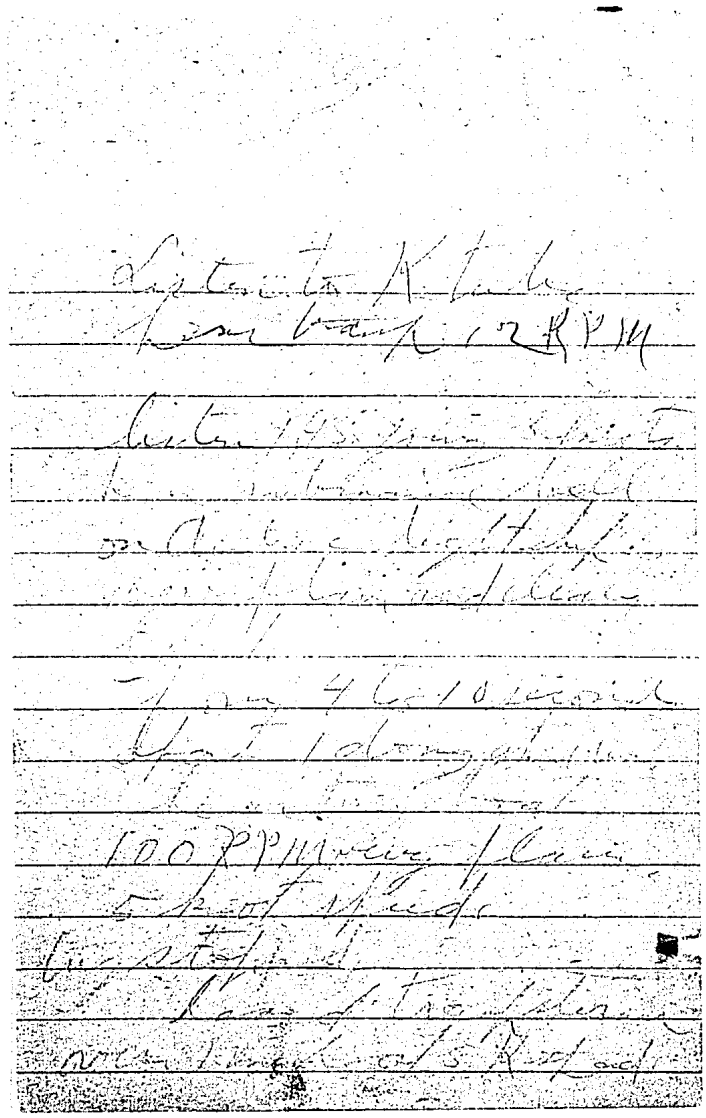
listening in port
and starboard
can hear [illegible]
very quiet
engine [illegible]
at 2:40 PM, very [illegible]
Captain [illegible] 98

2

had slice of
Fish quieter than
K tube, (pleasant)

Water noise in K tube
at this speed
[illegible]
heard [illegible]
They come in to rapid
[illegible]
Shut off engine
noise diminished,
but is very quiet
stabilizers to the
[illegible]

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]

[illegible]

Stop everything at 12

1 20 nothing

Monday

[illegible]

1 23 stationary

[illegible] 127

[illegible]

923 last 15 sec

46

18 4

9 1/2

(Rev. engines [illegible])

[illegible]

[illegible]

[illegible]

[illegible]

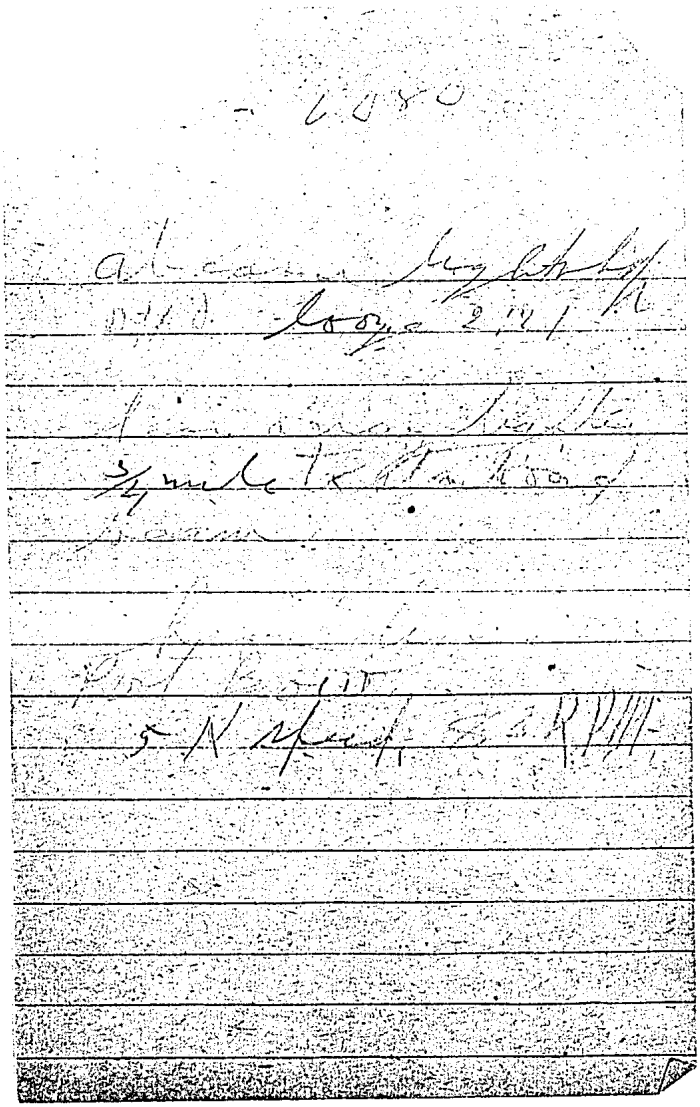
[illegible]

[illegible]

[illegible]

[illegible]

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]

Aug 12, 19

1

[illegible] 1935
Not near engine
[illegible] 20 [illegible]
[illegible] distinct knocks
Rear ship & heater
Our main engine
Listing in both sides
[illegible] shots
Just learning
[illegible]
Jump in blood
One of crewmates
[illegible]

2

[illegible]
[illegible] 5 A
Heating
count 100 B at [illegible]
from the start
[illegible]
at 3½ miles
[illegible]
[illegible]
Count 97 B
Rear bearing
land [illegible] near
Rear [illegible]
[illegible]
[illegible] 12 [illegible]

[ITEM(S) FOUND IN BOOK]

3

[illegible] not [illegible]
[illegible] such
[illegible]

heard shock
heard shit 1000 lbs
track [illegible]
left of center
rapid beats
very loud 84 RPM
dead beam
heard shit one plane
14 old domestic
18 RPM
$\frac{4}{72}$

1

$\frac{17}{51}$ $\frac{51}{3}$ 153

slow beats,
heavy bell.

still heard old
dominion line
fell down out
turned
time hair,
heard [illegible] coat
heard from [illegible]
1:34 to
heard line on foot
sick very loud 100 lb.
17 R.P.M. 17 X 3 [illegible]
1:23 to 1:40 [illegible]
on [illegible] 7 M. [illegible] 10 R

[ITEM(S) FOUND IN BOOK]

Hear heavier crash
then another blast
at 12,48 Portside
60 R.P.M. 60X4 Ceased
Course 12,44
to port stern 80 0 0
[illegible]
[illegible] VIII
8
Hear ship 11 o'clock
to port
gun fired 5 K.
[illegible]
7 K

6

Hear crash
starboard [illegible]
[illegible]
Hear steady hum
sail aweigh to port
Listening in port and
Starboard.
ship transport port
bow. running away
from us.

Hear steady loud
hoot very loud

[ITEM(S) FOUND IN BOOK]

7

Northern Pacific
backing full speed
terrible noise
500 yds away
finishing up Pilot.
terribly noisy Hissing
steam noise.
(engines)
stopped.
heard bell plain yet
heard another boat
port bow.

Here N.P. again
scratchy low pressure
steady.

8

similar to torpedo
noise.
about 1500 yds.
Heard her to 2 miles

our engine 92 RPM.
5 K.

[ITEM(S) FOUND IN BOOK]

9

Aug. 12. 1919

Our speed.
begun 2.52.30
tramp light

Meast a. tramp steamer
2.58 10K. 42X4

tramp stopped.

72 R.P.M.

Clear tramp 3/4 mile
to starboard.

Start 11.30

Ahead Half Speed	11.40
" " Slow " "	11.45
Change Course	11.45
Stop main Engine	11.46
Ahead slow Speed	11.51
" " Half " "	11.52
Change Course	11.57
" " " "	12.00
" " " "	12.06

[ITEM(S) FOUND IN BOOK]

and Bay,
Aug. 14, 1919.

Getting ready to get under way.
Started recorder 1:45 P.M.
raise anchor at
check recorder from 2:15
to 2:20
under way half speed 2.12
Change Course 2.15
Full Speed 2.17
Change Course 2.17
In Narrows 2.25
Change Course 2.27
" " " " 2.30
Change Course 2.35
Stop recorder entering North
River 4:45.

[ITEM(S) FOUND IN BOOK]

Sept 14/19.

#

Leave Sandy Hook dock at 8 AM.
count 80 RPM of Hamilton engine.

Hear a tugs very loud to our starboard, with about 300 yds, increase speed to 10 knots.
Count 128 RPM, 256 beats
Count 3584 140
Count 160 RPM
The noise that Lead is purely,

2

engine noise,
Very calm attitude to day,

Hear a tramp to the port bow, 1670 yds.

Her RPM is mixed with noises of count,
Tramp 2 points off starboard bow going away from us, 2100 yds. still hear, cannot see on port side.

[ITEM(S) FOUND IN BOOK]

7/24000 3 3.250

Hear Stilson Battleship about 9.00
Crossed with Cargo Boat. Cargo
boat very loud
Going Head on to Ambrose Lightship
[redacted] Bell not ringing
asked Ship to start Bell. started 9.43
at Light ship. Going away from
Light ship at 10 knots; 9.45
3.22 yds. 9.48 very loud.
665 " 9.49 30 A.M
1190 " 9.51.30 " "
1520 " 9.53 12 taps a minute of Bell
1955 9.54.30 A.M.
Hear better on starboard than Port side
still going 10 knots. Light ship now
on Port bow.
4.020 yds 9.59 still very Plain

10.000 yds.

speed increased 10.00
3.550 10.04 still very Plain
Listening on Port and Starboard Bow 1005
Speed decreased 1008 A.M.
7000 10.09 A.M.
1.45 R.P.M 10.13.30
Hear bell Plainly
On Port side of stern 10.15
10.000 not sure of range cannot see
Light ship on account of haze 10.19
Just [illegible] at 145 [illegible] 10.23

[illegible] 1025
broke up ballast
very plain
continues of course of

[ITEM(S) FOUND IN BOOK]

5

5 knots 90 R.P.M.
at 10:27
round 100 RPM
Hear Bell very plain 10:28
Hear overhead of Bell very clear

8 Turned Boat around.

We are now steaming away from
light ship at 5 knots hear Bell
Plain 10:35 94 R.P.M.
10:45 100 R.P.M
10:49 82 R.P.M.
10:55
Last Bell 10:55
No 1 on Chart Indicates Position Fast

6

Sailing away from light ship
to determine distance 11:10
Bow of ship facing Light Ship 11:22
Can just hear
bell (Knots) Two
auxiliaries running
position of Hawk
is dead ahead on
light ship,
Position is shown
by No 2 on chart.

We now get position
abeam of light ship
Port side abeam.
hear bell about the

[ITEM(S) FOUND IN BOOK]

7

Same.

We now turn away from light ship and lay too.

can just hear bell about the same intensity. (very weak)

We now run abeam of light ship.

back and forth coming closer each time, port and stbd alternately.

speed 5 kt. 90 turns

count 108 RPM,

8

RPM. check 92

" " 80

12:20 heard bell faintly but plain

position 3 on det 5 miles ahead.

1:10 We start from buoy 4 miles from light ship and sail away with stern to bell at 10 K

I count 145 RPM

Engine room, 154

I count 152 RPM.

[ITEM(S) FOUND IN BOOK]

9.

Range from buoy
3000 yds.
10 Knots ahead
just clear of
position 4 on chart
reverse course
and head for
light ship.
1.21.30
I count 140 RPM
2100 from Buoy 1.26 P.M
1610 " " 1.27 " "
1435 " " 1.28 " "
1150 1.29 " "
Bell does not ring any more 1.30
we stop main engine to find out

10

Bell does not ring
Column rides very good.
2 P.M. running to Light ship at 10 Knots
speed 140 RPM
2.17 P.M. off Light ship going down
Asked ship's pilot what time he stopped
Bell heard 1.15 P.M. 2.21 P.M.
~~Started~~ 2.30 Capt Harris asked the Captain of
Light ship Relief to continue ringing
Sub. Bell until we returned. Bell
started 2.32 I saw light ship at 10 Knots
134 R.P.M. 2.37 P.M.
140 R.P.M. 2.47
140 " " " 2.57
140 " " " 3.05 off Buoy sth. side
645 yds of Buoy sth. astern. 3.08 P.M.

[ITEM(S) FOUND IN BOOK]

3:25'30" 77

2400
8106
10506

935 yds. 3.09
2400 " " 3.11
158 R.P.M. 3.14
Turned ship around Port side to 3.13.
Full speed on 10 Knots ahead 3.20
2400 yds from Buoy. 3.20
~~1700 yds~~ 1700 yds from Buoy stopped ship 3.25
Now laying Right angle to light ship Port side to 1480 yds from Buoy 3.32
R.P.M. 160 time 3.33 P.M.
Going towards light ship at 10 Knots
3:35 P.M.
160 R.P.M. 3.23 PM
Tide change at 12.28 P.M.
Hear bell at 160 RPM
speed of engine

abeam 12 Mins 4.02
" 2 ship 4.12
At 4 mile buoy
were filain
Now running in to
light ship again at
160 RPM. To light
ship 3.48
Hear bell load 3.50
light ship range 3000 yds
~~3.55~~ 4.05 Load 160 RPM
against the tide
~~arrived~~ at L.S. 4.17
4.20 160 R.P.M.
Headed Kedge for
running hole

[ITEM(S) FOUND IN BOOK]

13.

Getting a Position to Cross U.S.S.
Destroyer No. 153. 4.39 P.M. of
Stb. stern 2 Points, Our Boat making
160 R.P.M.
Hear loud steady Roar.
3.00 yds. of Stb. side 4.38 P.M.
Very loud about 1 Point of Stb. Bow
4.09 yds. 4.45 P.M.
5.73 " 5.47
Sound Diminishing at 850 yds
5.48 P.M.
Cannot hear any more 4.49 P.M.
9.85 yds. 4.49 P.M

14

Passanger Boat Pretty Big 2 stacks
5.500 yds 5.05
160 R.P.M. 5.06
3.500 yds. Dead ahead. 5.07
3.250 Diminishing very loud 5.09
1710 very loud 5.10
Drowning our own noise out 5.10.20
Terrible noise being taken of Pilot 5.11
Our Boat stopped 5.12
Name of Boat Northern Pacific
Hear Pilot Boat running slow
N.P. started terrible noise 5.15
6.90 yds. 5.16
following N.P. at 10 Knots
8.40 yds 5.17
10.20 loud smartly noise 5.18
12.70 5.19

[ITEM(S) FOUND IN BOOK]

15

1700 yds	5.20
Our R.P.M. 160	5.21
2200	5.21
2700	5.22
Noise getting Faint still hear scratch	
noise	4.23
3500	4.23.30

[ITEM(S) FOUND IN BOOK]

34 45 2
3
6080) 103356 (17 miles,
6080
42556
42556

6080) 44445 (7

14815
3
5280) 44445 (8

[ITEM(S) FOUND IN BOOK]

Stopped 8.23 to fix engine
started
Cengine

730 Ambrose channel
off Rockaway

11.9 A.

Change course 11.25.
E 3/4 N.

2 1/2 miles East of Ambrose.
Heading E. 1/2 S.
Ichthyostegid.

[ITEM(S) FOUND IN BOOK]

1 P.M.

ships Heading E.N.E. ½ E.

12 miles ~~N.E.~~ of Fire Island.

3 P.M.

ships heading E.N.E. ½ E.

Shinnecock light.

(14 knots per hour)

~~start pilot at 4.30 P.M.~~

Heading N. ~~E.~~ restart at 5.

~~off Montauk Pt.~~

off Nanuagansett.

[ITEM(S) FOUND IN BOOK]

Departure taken from Entrance to Gedney Channel
Buoy #2 on Star Range. Course ESE time 8:56
180 turns
Buoy White Sea passed abeam 9:14 course ESE
Anthony light close abeam 9:33 " ESE
Changed course coming about back
to light ship stopped engine. Then
heading out to sea again anthony
close abeam course SE 9:49
SE½E 9:59 8KN
SE½S½S 10:13 "
Buoy passed abeam 10:23
Stopped 10:26 full left rudder
Buoy 1090 yds away 10:37 course at SE½S
5 knots. Stopped at 11:09:30
11:00 full speed ahead.

11:15 Swinging 180° Half speed. to Co. S½W½N
11:19 finished swinging stopped.
11:24 Half speed course NW½N
11:25 Stopped.
11:29 ahead Half speed Co NW½N
11:31 Stopped.
11:36 - 90° to Starboard to Co. NE½E
11:40 finished swing stopped.
11:45 Swinging 90° Half speed to Co. SE½S
11:48 finished swing. Stopped
11:52 Ahead half speed Swinging 90° to SW½W
11:56 finished swinging course SW½W ½ speed 5 KN
11:58 Swinging 90° to NW½N Half speed
12:00 finished swing ahead half speed.
Continued 90° more to NE½E
12:04 finished swinging

11:35

[ITEM(S) FOUND IN BOOK]

12:04 Changing course to NW x N
90° left Half Speed.
12:09 Changing course to SW x W 90° left
half speed.
12:12 Changing course to NW x N 90° Right
half speed.
12:18 Changing course to N x E 90° Right
half speed.
12:25 Changed course to NW Speed 5 knots
12:35 Changed course to NW x W 1/2 W " "
1:08 Mohawk buoy abeam.
1:10 Changed course to SE x S Full Speed
1:14 890 yds from buoy

1:15 – 1100 yds from buoy.
1:16 – 1310 " " "
1:17 – 1550 " " "
1:18 – 3000 " " " Submarine bell ambrose stopped ringing.
1:23 – Changing course to NW x N Full Speed
1:27 – 2100 yds from buoy.
1:28 – 1610 " " "
1:29 – 1435 " " "
1:30 – 1150 " " "
1:31 – Stopped main engine.
1:34 – Steered NW 3/4 W Full Speed.
1:37 – Changed course NW x W 3/4 W Full Speed
1:38 – Changing course to NW x N Full Speed.
1:42 – Changed course to NW 3/4 W

[ITEM(S) FOUND IN BOOK]

2.20 Ambrose lightship abeam
2.32 Course SE x S Full speed.
2.53 Changed course to SE x E
3.05 Changed course to E x E.
3.06 Mohawk buoy abeam.
3.09 645 yds from buoy
3.09 Changed course to S S E Full speed
3.10. 935 yds from buoy.
3.11 1095 " " "
3.12 1400 " " "
3.14 1630 " " "
3.15 1820 " " "
3.15 Half speed ahead
3.16 Changed course to E S E

3.20 Changed course to N W Full speed
3.21 2450 yds from buoy.
3.26 1700 " " " Stopped.
3.29 Full speed on N.W.
3.31 Changed co to N E x E Full speed. 1480 yds
3.37 Changed co to N W ½ W " "
4:00 2700 yards from Anchor light dead ahead.
4:01 2525 " " " "
4:12 Anchor light abeam changed course to N W x W ¼ W full speed.
4:27 Slow speed ahead.
4:33 full speed ahead. co W ½ N
4:37 course changed to Right swinging with full R. Rudder.
4:39 Cleared on E x S ¾ S

[ITEM(S) FOUND IN BOOK]

4:45 Course changed to SE x E ½ E
~~4:46~~ Destroyer #153 abeam on same course
4:47 Course changed to SE x E ¾ E
4:49 " " " E x S ¼ S
4:50 Destroyer 985 yds away fwd on starboard bow
changed course to Port board to W x S at 4:52
4:52 changed course to Star. to NW x W ½ W
4:55 changed cou to NW x W ¾ W
5:09 changed course to W ½ N
5:10 Swinging to port to SW at 5:11
USS Northern Pacific 1710 yds away abeam
5:12 course changed to port swinging ahead.
Slow speed ahead.
5:15 steady on S ahead half speed
5:16 ahead full speed.

5:18 U.S.S.N.P. 690 yds. star Rd USS N.P.
5:19 course changed to S x E 840 yds away
5:19:30 SS. 1020 yds away.
5:20 " 1270 " "
5:21 " 1700 " "
5:22 " 2200 " "
5:23:30 " 2700 " "
5:25 " 3300 " "
5:28 changed course about to NW ½ W
5:38 Cha. " " " NW ¾ W
5:45 " " " NW ½ W
5:46 " " " NW ¼ N
5:48 " " " N x W ½ W
5:57 Entering gedney channel.
Bouy #1 abeam heading in.

[ITEM(S) FOUND IN BOOK]

6:07 Buoy #3 passed abeam.
6:10 Buoy #2 passed abeam.
6:15 Buoy #2A passed abeam
6:20 Buoy #4 passed abeam
6:24 Buoy #6 passed abeam
6:28 Buoy #8 passed abeam

[ITEM(S) FOUND IN BOOK]

Fort Wadsworth S X W½ W
Statue of Liberty NNE
Robins Reef Light N ¾ W
SHIPSHEAD SW X W½ W

3026 | 14415 | 4.9
12104
2710
2234

6080
5.5
30400
30400
33440
3040
1760

3 | 6080
2026

4.3

5288

6080
7.5
30400
42560
4560 0.1
4224
3360

8.6
6.3
2 | 14.9
7.4

1760

[ITEM(S) FOUND IN BOOK]

Barr & Stroud.

F of type No 11.

Boresight.

Mark 3.

6080
6080
6075
30400
12560
42960
1424
3368
3168

5480 / 45600 / 86

0.19 5/16 / 1400 / 2.5 / 0.7 / 0.2761 / 0.2860 = 5.75

34452
31680
27720
27400

5480 / 6.5 mins

[ITEM(S) FOUND IN BOOK]

1

B. Wood Boat [illegible]

S.O. tanker Vesta

Total Dowel Vessel about 8 12.36

8.00 yds at 12.40

Water Draft of Water 2 ft

off Port bow 12.02 Samland. Belg.
name

Big Black Pass and Barge.

Ship Prop. 1 ft out of water 2.45

Mercer. U.S.S.B.
NAME

Std. Oil Tug with one Barge in tow

about 3.00 yards away 3.25

Barge Boat ¾ of mile away 3.50

[ITEM(S) FOUND IN BOOK]

KNIGHTS OF COLUMBUS

WAR ACTIVITIES

CAMP_____

1914

Shut down.

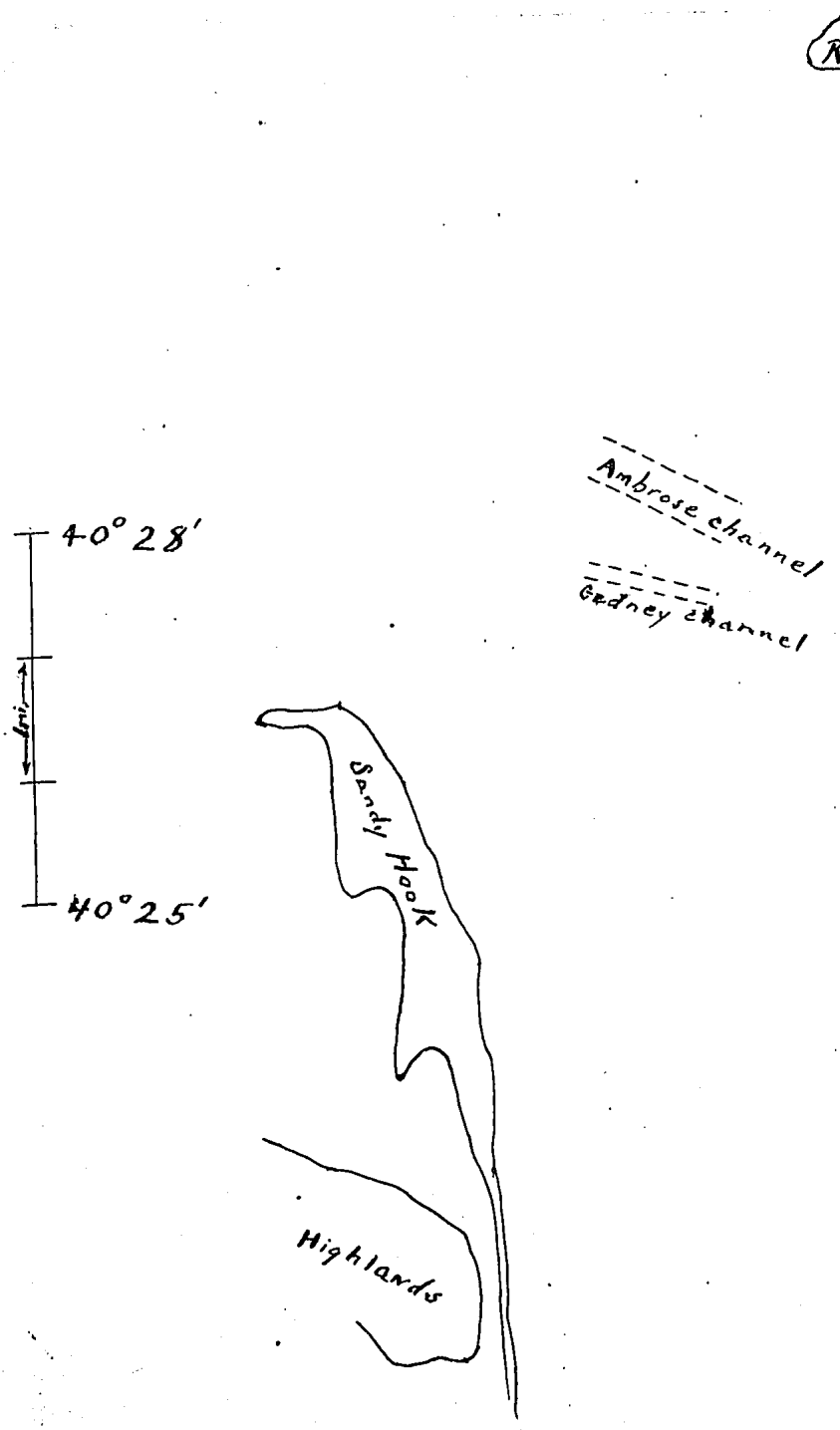
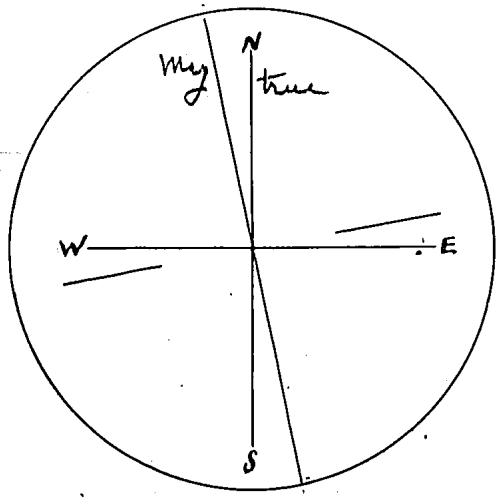
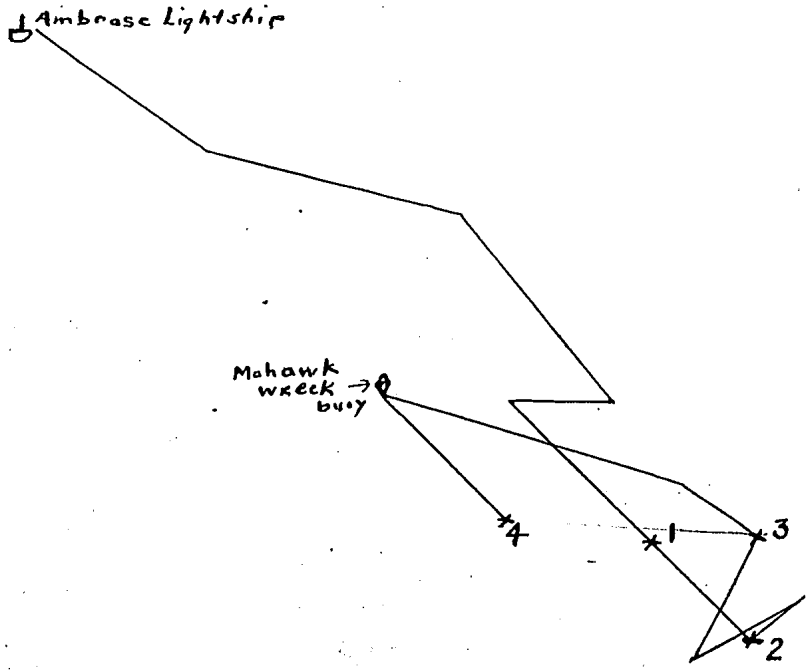
1 Main Engine at 1:20 p.m.
2 Generator at 1:22 p.m.
3 Air Pump at 1:24 p.m.
4 Circulator at 1:24 p.m.
5 Blower Engine at 1:24 p.m.
6. Feed Pump at 1:24 p.m.

Started up.

Main Exhaust to Condenser at 1:25 p.m.
Circulator at 1:25 p.m.
Feed Pump at 1:25 p.m.
Air Pump at 1:25 1:30 p.m.
Generator at 1:26 1:30 p.m.
Blower Engine at 1:26 p.m.
Main Engine at 1:30 p.m.

Full speed 180 R.P.M. = 10 Knots
Half Speed 90 R.P.M. = 5 Knots
125 R.P.M. = 7 "

[ITEM(S) FOUND IN BOOK]



[ITEM(S) FOUND IN BOOK]